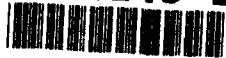


**AD-A249 227**



**92-11262**



REPORT DOCUMENTATION PAGE															
1a. REPORT SECURITY CLASSIFICATION Unclassified		1b. RESTRICTIVE MARKINGS													
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release. Distribution is unlimited.													
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE															
4. PERFORMING ORGANIZATION REPORT NUMBER(S)		5. MONITORING ORGANIZATION REPORT NUMBER(S)													
6a. NAME OF PERFORMING ORGANIZATION <u>U.S. Army War College</u>		6b. OFFICE SYMBOL (if applicable)													
6c. ADDRESS (City, State, and ZIP Code) Root Hall, Building 122 Carlisle, PA 17013-5050		7a. NAME OF MONITORING ORGANIZATION													
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (if applicable)													
8c. ADDRESS (City, State, and ZIP Code)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER													
		10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO.      PROJECT NO.      TASK NO.      WORK UNIT ACCESSION NO.													
11. TITLE (Include Security Classification)  Magic and Ultra in the China-Burma-India Theater															
12. PERSONAL AUTHOR(S) Colonel Stephen K. Fitzgerald															
13a. TYPE OF REPORT Individual Study	13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Year, Month, Day) 1992 April 3	15. PAGE COUNT 76												
16. SUPPLEMENTARY NOTATION															
17. COSATI CODES <table border="1"><thead><tr><th>FIELD</th><th>GROUP</th><th>SUB-GROUP</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></tbody></table>		FIELD	GROUP	SUB-GROUP										18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP													
19. ABSTRACT (Continue on reverse if necessary and identify by block number)  The U.S. broke the Japanese diplomatic cipher "Purple," codenamed MAGIC, prior to Pearl Harbor. Decoding success with the various Japanese military codes, codenamed ULTRA, was not achieved until 1943. MAGIC and military (as distinct from naval) ULTRA were the responsibility of the U.S. Army. All MAGIC and ULTRA decrypts were shared with the British. MAGIC and ULTRA were made available to major commanders in the China-Burma-India Theater as they became available. This study makes use of the official U.S. Army history of the theater, intelligence histories, the daily "Magic Summaries," and ULTRA material to examine the operational use of MAGIC and ULTRA. The study focuses on the Second Burma and North Burma Campaigns while making observations about the Salween Campaign and the British defense of India. The study concludes that neither ULTRA nor MAGIC were able to consistently fathom Japanese intentions in Burma and that the ultimate importance of MAGIC and ULTRA was to confirm intelligence obtained from other sources. Nevertheless, as the war went on, ULTRA revealed more and more of Japanese operational goals.															
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION													
22a. NAME OF RESPONSIBLE INDIVIDUAL LTC Wayne A. Silkett		22b. TELEPHONE (Include Area Code) (717) 245-3032	22c. OFFICE SYMBOL AWCAC												

USAWC MILITARY STUDIES PROGRAM PAPER

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

MAGIC AND ULTRA IN THE CHINA-BURMA-INDIA THEATER  
AN INDIVIDUAL STUDY PROJECT

by

Colonel Stephen K. Fitzgerald  
United States Army Reserve

Lieutenant Colonel Wayne A. Silkett  
Project Advisor

U.S. Army War College  
Carlisle Barracks, Pennsylvania 17013

Accession For	
NTIS	CRA&I
DTIC	TAB
Unannounced	
Justification .....	
By .....	
Distribution /	
Availability Codes	
Dist	Avail and/or Special
A-1	

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.



## ABSTRACT

AUTHOR: Stephen K. Fitzgerald, COL, USAR  
TITLE: MAGIC and ULTRA in the China-Burma-India Theater  
FORMAT: Individual Study Project  
DATE: 3 April 1991 PAGES: 76  
CLASSIFICATION: Unclassified

The U.S. broke the Japanese diplomatic cipher "Purple," codenamed MAGIC, prior to Pearl Harbor. Decoding success with the various Japanese military codes, codenamed ULTRA, was not achieved until 1943. MAGIC and military (as distinct from naval) ULTRA were the responsibility of the U.S. Army. All MAGIC and ULTRA decrypts were shared with the British. MAGIC and ULTRA were made available to major commanders in the China-Burma-India Theater as they became available. This study makes use of the official U.S. Army history of the theater, intelligence histories, the daily "Magic Summaries," and ULTRA material to examine the operational use of MAGIC and ULTRA. The study focuses on the Second Burma and North Burma Campaigns while making observations about the Salween Campaign and the British defense of India. The study concludes that neither ULTRA nor MAGIC were able to consistently fathom Japanese intentions in Burma and that the ultimate importance of MAGIC and ULTRA was to confirm intelligence obtained from other sources. Nevertheless, as the war went on, ULTRA revealed more and more of Japanese operational goals.

## **LIST OF FIGURES**

<b>Figure</b>	<b>Page</b>
1. ULTRA Portrayal of Japanese Dispositions in Burma, 4 February 1944.....	24
2. ULTRA Portrayal of Japanese Dispositions in Burma, 15 March 1944.....	27
3. ULTRA Portrayal of Japanese Dispositions in Burma, 29 March 1944.....	28



## INTRODUCTION

The successful World War II U.S. cryptanalysis of the Japanese diplomatic cipher--codenamed MAGIC--and naval codes has been public since at least 1967.<sup>1</sup> Group Captain F.W. Winterbotham's 1974 memoir about the British breaking of the German Enigma encipherment system--codenamed ULTRA--led, in turn, to declassification of many documents about the equally successful U.S. effort in breaking many of the Japanese military and naval codes, also codenamed ULTRA.<sup>2</sup> This led, in turn, to a number of works about the use of ULTRA to make decisions during World War II. Conspicuous by its absence, however, has been examination of the use of MAGIC and ULTRA in the CBI, the China-Burma-India Theater, a "forgotten" theater in many respects. Thus, neither Tuchman's Stilwell and the American Experience in China nor Allen's Burma: The Longest War mention signals intelligence in the prosecution of the war in that theater.<sup>3</sup> Of course, diaries and memoirs of principal participants do not mention signals intelligence explicitly because of wartime security classifications, TOP SECRET in the case of MAGIC and ULTRA.<sup>4</sup> Even Lewin's The American Magic gives short shrift to the CBI.<sup>5</sup> It is clear, in the Pacific at least, ULTRA was used

in anticipating Japanese operations and in estimates in support of U.S. planning efforts.<sup>6</sup> The purpose of this paper is to determine the effect of the breaking of Japanese codes and ciphers on the planning and conduct of Allied campaigns in Burma, specifically the Second Burma and North Burma Campaigns.<sup>7</sup>

### Terminology

Signals intelligence (SIGINT) can be divided into communications intelligence (COMINT) and electronic intelligence (ELINT).<sup>8</sup> COMINT--called communications research during World War II--can be divided into three categories: interception and direction finding (DF), traffic analysis, and cryptanalysis.<sup>9</sup> ULTRA generally referred to Japanese military and naval codes while MAGIC was a diplomatic cipher. "A code," writes Kahn, consists of thousands of words, phrases, letters and syllables with the codewords or codenumbers (or, more generally, the codegroups) that replace these plaintext elements.<sup>10</sup>

In a cipher "the basic unit is the letter, sometimes the letter-pair, vary rarely larger groups of letters."<sup>11</sup> Furthermore:

Most ciphers employ a key, which specifies such things as the arrangement of letters within a cipher alphabet, or a pattern of shuffling in a transposition, or the settings on a cipher machine.<sup>12</sup>

The mere reversal of the original transformation back into plaintext is called deciphering or decoding whereas the solving of the code or cipher is called decryption: cryptanalysis is the breaking of codes and ciphers.<sup>13</sup>

## MAGIC

During World War II, Japanese diplomatic signals were enciphered on a machine introduced in 1937. This machine--the J machine, or Japanese Alphabetical Typewriter, Type 97, 97-shiki O-bun In-ji-Ki, was called "Purple" by the United States and was intended to replace the older "Red" cipher which, unknown to the Japanese, had been broken by the United States in 1936.<sup>14</sup> The Purple cipher was assiduously attacked by U.S. cryptanalysts who were the beneficiaries of two lucky breaks. The first was a design flaw in the Purple machine itself: it divided the English alphabet, which it employed, into two groups of twenty and six letters each, a system also used in the replaced Red machine.

Thus

Whatever 6 letters were plugged in the plugboard to the "vowel" positions enciphered only amongst themselves, and similarly for the "consonant" positions.<sup>15</sup> This was the Achilles' heel of the machine.

The second break was the result of an incredible, but typical, breach of operational security: initially the Japanese often transmitted the same signal in both the Red and the Purple cipher as not all recipients had yet received the new Purple machine.<sup>16</sup> This "characteristic complacency" and "sloppiness" was to bedevil the Japanese signals effort throughout the war: they continued the use of old codes and ciphers alongside the new and never seriously entertained the notion their security might be breached, even when in possession of information (May 1941) that Purple might have been broken.<sup>17</sup> The Japanese "fatal failure was

more a matter of carelessness and self-complacency than technical sterility."<sup>18</sup>

U.S. cryptanalysts broke the Purple diplomatic cipher by September 1940. The Japanese signals, when deciphered, were called MAGIC. The Army Signal Intelligence Service (SIS) assumed responsibility for the production and handling of MAGIC after the Pearl Harbor attack.<sup>19</sup> Beginning 20 March 1942, a daily synopsis of deciphered MAGIC traffic was published as the TOP SECRET "Magic Summary," later called the "Magic Diplomatic Summary."<sup>20</sup> By June 1944, all or parts of the Summary were being sent to Special Security Representatives in each theater.<sup>21</sup> The usual view is that MAGIC provided mainly strategic intelligence.<sup>22</sup>

#### ULTRA

In the fight to decrypt Japanese codes, the U.S. Navy counted first coup. The HYPO station, later Fleet Radio Unit, Pacific (FRUPAC), at Pearl Harbor, broke the Japanese naval codes, J[apanese]N[avy] 25 and JN25b, and thereby contributed significantly to the U.S. victory at Midway in spite of the adoption of JN 25c in May 1942. While the code was changed in August, it was eventually solved because of its similarity to the JN 25 codes.<sup>23</sup> About this time Admiral Ernest King, Chief of Naval Operations, instructed this form of signal intelligence be called ULTRA. Applied first to Japanese naval codes, it was later extended to army codes.<sup>24</sup>

On the military side, the U.S. Army's G-2 gave the interception of Japanese Army message traffic the highest priority on 8 March 1943.<sup>25</sup> "Radio decryption intelligence" was originally codenamed DEXTER, CORRAL and RABID (6 February 1943).<sup>26</sup> By 15 March 1944, after passing through a stage where it was variously called ULTRA DEXTER, ULTRA CORRAL, or ULTRA RABID (14 October 1943), special intelligence--that intelligence derived from the solution of high grade codes and ciphers (less MAGIC)--was known as ULTRA. "Crypt intelligence", low and medium grade codes and ciphers, was codenamed PEARL. THUMB was the codename for traffic analysis, intelligence gained from radio traffic and direction finding.<sup>27</sup>

It was not until almost a year after the Navy solved JN25b that, in March 1943, the British Wireless Experimental Center (WEC), New Delhi, first broke into a high-level Japanese system, in this case the water transport code; translated messages were available in June.<sup>28</sup> More progress was made in August. At about this time, the War Department Special Branch of the Military Intelligence Service (MIS) was reorganized to handle the increase in Japanese military traffic and Section B, responsible for such traffic, came into existence.<sup>29</sup> Until a further reorganization in June 1944, Special Branch conducted all evaluation of ULTRA, disseminating items by radio daily.<sup>30</sup> MIS also engaged in bureaucratic battles with personnel agencies--in April 1943 there were only twenty personnel working on intelligence material in Special Branch--and with the Signal Corps exercising control of

the Signal Security Agency (SSA), the agency that actually did the intercepts.<sup>31</sup> In December 1943/January 1944, still more progress was made, especially with the Japanese military administration code and with a significant increase in the volume of information on the Japanese Army Air Force.<sup>32</sup> A big break came in February when a copy of the administration code was captured.<sup>33</sup> ULTRA from the SSA and WEC "was virtually the only source of information on Japanese plans and current orders."<sup>34</sup>

February 1944 also saw the first time that a "Japanese Army Supplement" (later the "Far East Summary") incorporating ULTRA intelligence was appended to the "Magic Summary;" soon every Japanese division was identified and located.<sup>35</sup> The supplement was sent to major field commanders, both U.S. and British.<sup>36</sup> By March, ULTRA was the major source of information on the Japanese Army Air Force and the U.S. Army and Navy were engaged in a full exchange of ULTRA intelligence about Japanese Army and Naval Air Forces.<sup>37</sup> April and May saw the first editions of a book on major Japanese ground units and their code names and numbers; a similar edition on Japanese Army air units followed in June.<sup>38</sup> It was also clear by June that the G-2 could not control Signal Corps SIGINT operations, being unable to enforce priorities for circuits monitored, etc.<sup>39</sup> As a result, MIS was reorganized in June 1944 and Special Branch, as such, disappeared. In its place was a new Special Branch, a more "homogeneous organization" which fused ULTRA with all other intelligence sources.<sup>40</sup> MIS won its battle with the Signal Corps when, on 10 December 1944 (effective

15 December), the G-2 was "vested with full operational control over interception and cryptanalytic activities."<sup>41</sup>

Unfortunately, Japanese military messages were often fragmented and characterized by being broken into parts sent separately, a "miscellany of individual, localized orders and reports;" by the time they were decoded they might be weeks, or even months old.<sup>42</sup> Only infrequently would a broad summary of either military plans or movements appear.<sup>43</sup> In addition, the messages were from "widely dispersed producing centers."<sup>44</sup> Thus, useful intelligence came from the painful assembly of bits and pieces of information. For this reason and by the very nature of the codes themselves, large numbers of IBM tabulating machines, as well as literally thousands of 3" X 5" cards, were required for analysis, decoding and processing. This led to operational and even tactical intelligence being developed in Washington and then sent overseas by radio or courier.<sup>45</sup> This, in turn, led to background briefings, special communications channels, management by specially trained personnel, and strict rules for dissemination as discussed below.<sup>46</sup> Nevertheless, the sheer volume of intercepts provided valuable information to commanders through traffic analysis.<sup>47</sup>

#### The Special Security Officer System

MIS sent a team to Britain to examine the British intelligence system as part of a 1943 internal review. It was only then, April 1943, that the Americans realized British

success in exploiting German military message traffic, acquiring in the process "the full benefit of British experience in the signal intelligence field."<sup>48</sup> British experience rested on the firm principle that

regardless of temporary advantage, no affirmative action visible to the enemy should be taken on signal intelligence unless information to the same effect could be obtained from other sources.<sup>49</sup>

Moreover:

channels for handling and disseminating signal intelligence must be clearly defined, thoroughly understood by all concerned, and never departed from.<sup>50</sup>

The British experience could be summed up in four rules:

1. Indoctrinate the recipients.
2. Employ special communications channels.
3. Control by a central organization.
4. Limit distribution on a strict need-to-know basis.<sup>51</sup>

Three results ensued. First was a U.S.-U.K. agreement on full ULTRA cooperation with the United States to focus its efforts on Japanese ULTRA.<sup>52</sup> Second was the organization of Special Service Branch (later Special Branch), MIS, to handle ULTRA signal intelligence "from intercept to dissemination of the finished intelligence product."<sup>53</sup> The third result was establishment of the Special Security Officer (SSO) system based upon the successful British Special Liaison Units (SLU).<sup>54</sup> The Special Branch, MIS, initially "recruited, trained, assigned and administered" the SSOs.<sup>55</sup>

The SSO system was intended to facilitate rapid, secure dissemination of ULTRA intelligence to theater commanders.<sup>56</sup> The initial intent was to:

limit overseas dissemination of ULTRA to theatre [sic] headquarters while awaiting recommendations from Special Security Officers for further dissemination.<sup>57</sup>

The MIS SSO, while placed on the staff of the theater commander, was answerable to MIS alone. Planning for sending an SSO to the CBI was outlined 26 July.<sup>58</sup> The system--SSOs and special communications channels--was adopted in the Fall and, by the end of 1943, SSOs were attached to theater staffs under the rules set down in AG letter 312.1 (13 October 1943).<sup>59</sup> Later, when ULTRA intelligence was shared with operational commanders, the senior SSO in the theater was renamed the Special Security Representative (SSR).

The first SSO sent to the Rear Echelon Headquarters, CBI, New Delhi, to serve the theater commander (Fall 1943) was Army Captain John F.B. Runnals who was entrusted with personal control, supervision, and security of TOP SECRET SIGINT (ULTRA) intelligence. Runnals coordinated with British signal intelligence in New Delhi. Even at that time, MIS anticipated the need for five additional SSOs; the Secretary of War approved the increase in December.<sup>60</sup> In the interim, Captain (later Major) George E. Diller was transferred within theater to MIS in April, trained by Runnals and assigned as the SSO in Calcutta.<sup>61</sup> Diller's job was to provide ULTRA information to the U.S. Tenth Air Force, the XX Bomber Command, and Eastern Air Command, all

headquartered in the vicinity of Calcutta. Diller's mission reflected the complete sharing of ULTRA intelligence between the Americans and British. By this time the Army G-2 had cleared a number of commands for ULTRA intelligence:

Forward Echelon HQ, CBI	Fourteenth Air Force
Rear Echelon HQ, CBI	Eastern Air Command
Northern Area Combat Command	Strategic Air Force
Y-Force Operational Staff	Tactical Air Force
Z-Force Operational Staff	Northern Air Sector Force
XX Bomber Command	(5320 Air Defense Wing) <sup>62</sup>
Tenth Air Force	

Distribution and routing of ULTRA intelligence was delegated to New Delhi. This extension of ULTRA to forward American headquarters was due, in part, to the British habit of extending it to their forward headquarters even when without proper ULTRA facilities. The extension of ULTRA was also due, in part, to the Commanding General's method of command--Runnals called it "Stilwell's 'itinerating habits'"--which often saw Stilwell forward with his troops. As this meant perforce that ULTRA could not always be passed to Stilwell, it was sent directly to the G-2s at Northern Area Combat Command (NCAC) and Y-Force, commanded by, respectively, Brigadier Generals Haydon L. Boatner and Frank Dorn.<sup>63</sup> American commanders and intelligence officers such as Major General Claire L. Chennault, Dorn, and Colonel Joseph W. Stilwell, Jr. were "eager" for ULTRA.<sup>64</sup> Yet, as late as 1945, Dr. Marshall Stone could observe that an "essential activity" was

'selling' the signals intelligence product to high-ranking officers only recently brought into the picture and still reluctant to believe that the stuff is really accurate and reliable.<sup>65</sup>

Runnals, the American SSO, bitterly remarked that the long British use of ULTRA intelligence without SLUs in theater, despite the principles of special communications channels and centralized control, had resulted in lax security. He further noted that the British had an "enormously large Ultra list" and were lax in briefing recipients.<sup>66</sup> Runnals remarked at this time that coordinating views between London and Washington on ULTRA intelligence could cause operational delays.<sup>67</sup> Two more SSOs were sent to assist Runnals as the volume of signal intelligence and operational tempo increased.<sup>68</sup>

Theater experience, and the workload, dictated a requirement for more SSOs for forward ULTRA recipients.<sup>69</sup> A new Washington regulation on 10 July permitted wider dissemination of ULTRA intelligence.<sup>70</sup> In response, Lieutenant Colonel Inzer B. Wyatt was designated theater SSR and sent with a team (including a deputy) to New Delhi, arriving 19 August.<sup>71</sup> By October, six commands, in addition to New Delhi, had their own SSO:

Eastern Air Command XX Bomber Command Fourteenth Air Force	Forward Echelon HQ Northern Combat Area Command Y-Force <sup>72</sup>
--	---

It is significant that SSOs, with their accompanying cryptographic machines, were now operating outside the safety of India: NCAC was headquartered in Myitkyina, Burma, while Fourteenth Air Force (Kunming), Forward Echelon Headquarters (Chungking), and Y-Force (Paoshan) were all headquartered in China. ULTRA intelligence itself continued to be received, processed, and dispatched from New Delhi.

In November 1944, following the political recall of General Stilwell, the CBI Theater was divided into the India-Burma Theater headquartered in New Delhi (Lieutenant General Daniel I. Sultan) and the China Theater headquartered in Chungking (Major General, later Lieutenant General, Albert C. Wedemeyer). Wyatt then became the SSR for both theaters with a deputy in each. An SSO was sent to Tenth Air Force in Myitkyina at this time.<sup>73</sup>

With the end of the Salween Campaign in January 1945, Y-Force's SSO was withdrawn. NCAC and Tenth Air Force, with their SSOs, then moved from Myitkyina to Bhamo, Burma. By May, operations in central Burma were concluded and ULTRA intelligence to both commands was terminated. In May, too, the SSO was withdrawn from XX Bomber Command as it redeployed to the Pacific.<sup>74</sup>

June 1945 witnessed establishment of a special U.S. Liaison Office at Supreme Allied Command, South East Asia (SACSEA)--also known as South East Asia Command (SEAC)--in Kandy, Ceylon, which began receiving ULTRA intelligence directly from Washington.<sup>75</sup> Combat operations ended in the India-Burma Theater in July and the SSR moved to Chungking, leaving an SSO in New Delhi. Eastern Air Command was dissolved, and the U.S. Army Air Force (USAAF), China Theater, was established in Chungking with its own SSO. By September, Chungking was receiving all ULTRA intelligence from Washington except that sent directly to Kandy. In addition to the SSR in Chungking, SSOs were located at:

SEAC (Kandy, Ceylon)  
Fourteenth Air Force  
(Peishiyi, China)

USAAF (Liuchow, China)  
India Burma Theater HQ  
(New Delhi)

By the end of September 1945, all SSOs had departed except the SSR with the Commanding General, China Theater. The headquarters moved to Shanghai 15 October.<sup>76</sup>

#### Background to the Reconquest of Burma

Following the attacks on Pearl Harbor and Malaya, the ARCADIA Conference (December 1941-January 1942) in Washington determined the Allies' approach to operations against the Japanese. President Roosevelt and Prime Minister Churchill agreed to establish a unified Allied command, the American, British, Dutch and Australian Command (ABDACOM), in Southeast Asia which, according to General George C. Marshall, demonstrated Allied unity.<sup>77</sup> The commander was British General Archibald P. Wavell. Burma was included in the command, as a morale-builder for Chiang Kai-shek, even as the Japanese were engaged in its conquest:

the Japanese recognized Burma as a strategic military objective which, under Japanese occupation,<sup>78</sup> would cut off the road to China [from Rangoon].

The Japanese began their invasion of Burma in December without warning by MAGIC. The invasion force eventually totaled four divisions, the 18th, 33rd, 55th and 56th, confirmed by MAGIC in May.<sup>79</sup> Rangoon, the Burmese capital, fell to the Japanese on 8 March.

In a political move at the end of December, a China Theater was created to insure Allied unity against Japan. Chiang Kai-shek, President of the Republic of China, was named Supreme Commander of the China Theater by Roosevelt and Churchill on the suggestion of the Combined Chiefs of Staff. Lieutenant General Joseph W. Stilwell was chosen by President Roosevelt to be Chiang's Chief of Staff while also commanding U.S. troops in the CBI Theater. He also commanded the Chinese troops sent to Burma, after Rangoon's fall, to assist the British in stemming the Japanese advance south of Mandalay. This campaign, the First Burma Campaign, saw Chinese and British forces routed.

MAGIC messages were diplomatic in origin. Until Burma gained "independence" in August 1943, it was under Japanese military administration and there was no need for substantial Japanese diplomatic representation. Thus, the first message from Rangoon only appeared in the "Magic Summary" on 8 September 1943.<sup>80</sup> Moreover, the Japanese military did not always confide operations to Foreign Ministry personnel. Nevertheless, MAGIC suggested the line of Japanese thought about future operations with the Japanese Foreign Minister's comments to the German Ambassador about probable future attacks on India.<sup>81</sup> While no military action against India was then planned, victory in Burma gave the Japanese confidence.<sup>82</sup> By late June, the best Japanese air assets were transferred to Manchuria which suggested no immediate intent to invade India.<sup>83</sup> MAGIC reported on 11 August that Foreign Minister Togo, after consulting with the Army,

requested his ambassador in Berlin inform the German and Italian authorities that Japan "will avoid any rash acts of hostility" toward India.<sup>84</sup>

An intriguing message, unique in the summaries, was sent from the Japanese Ambassador in Berne to Tokyo in September.<sup>85</sup> It provided information requested on the truck road between Dimapur, Kohima, and Imphal. The "Magic Summary" published on 18 October summarized a 10 October message sent by the Japanese Consul in Bangkok to Tokyo upon his return from a trip to Burma:

Army in Burma has received orders for new campaign. Of present military strength in Burma, 4 divisions, some should make preparation against Chungking, others against India. Operations against India to come first. There are points which cause anxiety to High Command, viz: present British strength facing Japanese is 70,000. American military strength totals 60,000 men and...it is plain that it is really concentrating in Bengal and Assam to meet Japanese offensive.<sup>86</sup>

The summaries for 21 and 22 October also reported queries of troop movements in India and a reference to a "new campaign" while referring to the 10 October message.<sup>87</sup> Summaries on the 24th, 26th, 27th and 29th of October also carried items on India and troop movements.<sup>88</sup> Message traffic in November focused on Allied intentions in Burma after the defeat of the Germans in North Africa, the condition of British troops in Assam, and British troop movements from Iran and Iraq.<sup>89</sup> In fact, Southern Army ordered the 15th Army in September to begin planning for an invasion of India.<sup>90</sup> Planning was suspended on 23 December. Nevertheless, Operation No. 21 "was the first of a series of plans which eventually led to the Imphal Operations."<sup>91</sup> Although

MAGIC did not provide positive evidence of Japanese intent to invade India, the episode illustrates how one bit of information or intelligence can focus the collection effort on a particular subject.

MAGIC also revealed the intentions of Thailand in what would be a nagging sideshow, the invasion of the Burmese Shan states. Tokyo approved, on 12 May, Marshal Pibul's plan to invade Burma, an attack on Chinese troops, and the concession of Burmese territory to Thailand.<sup>92</sup> The Thais hoped to annex Burmese territory east of the Salween River.<sup>93</sup> Thus, a large part of the Thai Army would be engaged in the north and of no threat to future Allied plans.

In July 1942, Stilwell proposed a 1942 Burma Campaign with twelve Chinese divisions attacking from Yunnan, China, and six Anglo-Indian divisions from Manipur State, India. All eighteen divisions would converge on Mandalay before advancing south to retake Rangoon. While Wavell initially wished to move down the Arakan coast and take the airfield at Akyab, he changed his mind and approved the Stilwell plan.<sup>94</sup> Because of the logistical situation, however, General Wavell, continued reluctant to drive toward the Chindwin River. When Generalissimo Chiang Kai-shek formally backed out of the plan on 8 January 1943, Stilwell's plan was sidelined.<sup>95</sup>

On January 17, at the Casablanca Conference (14-23 January 1943), the U.S. Joint Chiefs of Staff, giving in to British desire to postpone land operations against the Japanese in Burma,

supported the British ANAKIM Plan to reconquer Burma and take Rangoon with a target date of 15 November 1943.<sup>96</sup> The Combined Chiefs also approved a limited British offensive to retake the Arakan coast and Akyab. By May 1943, the British Arakan Offensive was a failure.<sup>97</sup> In the meantime, the First Chindit expedition under Brigadier Orde Wingate was executed behind Japanese lines (February 1943 to May 1943). While demonstrating that a large force could operate behind enemy lines, it also was the decisive factor convincing the Japanese to plan for what would terminate in the assault on Kohima and Imphal in Indian Assam.

During the TRIDENT Conference in Washington (May 1943), in a meeting of the Combined Chiefs of Staff, Chennault--commanding the Fourteenth Air Force under Stilwell--convinced President Roosevelt of the efficacy of operations focusing on the air war.<sup>98</sup> The result was the collapse of ANAKIM. In its place were plans to build up air supply over the Himalayas--the "Hump"--from India to China, and to conduct a limited operation in Northern Burma involving Chinese troops from Yunnan to open a land route to China.<sup>99</sup> Soon after TRIDENT, Wavell was made Viceroy of India and, on 18 June, succeeded by General Claude J.E. Auchinleck as British Commander-in-Chief in India.

The QUADRANT Conference in Quebec (August 1943) reaffirmed the tenor of the upcoming Burma operation, directing the taking of Myitkyina and Mogaung to improve the air route to China and as a prerequisite to completing the Ledo Road to China. In

addition, three geographic and one operational theater were established. The geographical theaters were to be SEAC (Burma, Ceylon, Sumatra, and Malaya), commanded by Vice Admiral Louis F.A.V.N. Mountbatten; India, commanded by Auchinleck; and China, commanded by Chiang. The operational theater was the American CBI, commanded by Stilwell and not subordinate to the newly created SEAC. Stilwell remained Chiang's Chief of Staff and was also named Mountbatten's Deputy in addition to his other titles, a most confusing situation.<sup>100</sup>

As the command situation sorted itself out, MAGIC did not reveal much about the enemy situation in Burma.<sup>101</sup> The Hayashi Unit, elsewhere identified as 15th Army, was linked to command of the Japanese 55th Division defending Akyab in the Arakan.<sup>102</sup> The other three divisions in the conquest of Burma still remained there.<sup>103</sup> Although the Chinese reported movement of additional regiments to Burma--most likely those of the 31st Division--MIS could not confirm this.<sup>104</sup> An analysis of budgets for military expenditures suggested that Indo-China was not intended for use as "a staging area for large-scale operations" and was, in fact, a rear area.<sup>105</sup> As Indo-China, and Thailand for that matter, had been used as a staging area for the invasion of Burma, the inference drawn was that no major operations were in the works. Finally, rain bogged down the luckless Thai Army in its Shan States sideshow.<sup>106</sup>

### The Second Burma Campaign

Brigadier General Haydon L. Boatner of NCAC prepared the initial plan for the Second Burma Campaign and envisioned a drive through the Hukawng Valley toward the objective Myitkyina.<sup>107</sup> Stilwell's planners incorporated it into their Plan ALBACORE. Even as the operation began, ULTRA indicated "heavy movement of troops and supplies overland through Indo-China and Thailand to reinforce the Burma front."<sup>108</sup> The problem was, as we have seen, Runnals (the first CBI SSO) was not to reach New Delhi until December 1943, over a month after the campaign commenced in October. MAGIC, however, confirmed the impression generated by other intelligence sources that the Japanese were preparing to defend Burma--"a real defense"--although they expected the main Allied attack to come from the south via the Nicobar and Andaman Islands.<sup>109</sup> The Japanese believed that India and Ceylon would be the bases for a British campaign which would begin in late October or early November.<sup>110</sup> The Japanese continued to rush preparations for their defense, activity in Thailand now being compared with Indo-China in late 1941.<sup>111</sup>

On the one hand, in December 1943, Stilwell estimated a total of five divisions in Burma and, indeed, the 31st had arrived in the Summer of 1943 to join the four divisions already there which had initially conquered Burma. What he did not know was that a sixth division, the 54th, had begun arriving in the Fall.<sup>112</sup> On the other hand, Chiang estimated a total of eight Japanese divisions, a situation which did not come to pass until

March 1944, after the arrival of the 2d Division by rail (January-February 1944) and the 15th Division by road march (January-March 1944) as revealed by ULTRA. His intelligence actually put the 18th Division in Mandalay, far to the south of its position around Myitkyina.<sup>113</sup> Mountbatten, too, believed that there were eight Japanese divisions in Burma "by January."<sup>114</sup> At the SEXTANT Conference in Cairo (November 1943), Wedemeyer reported that only two regiments were in the Arakan when actually the 54th Division was moving to join the already present 55th.<sup>115</sup> Higher headquarters in Burma were the Burma Area Army (Field Army equivalent) in Rangoon and its subordinate 15th Army in Maymyo.<sup>116</sup>

The Second Burma Campaign began in October and, on 30 October, ran into its first snag: advancing troops collided with the 56th Infantry Regiment, 18th Division. The presence of the 56th proved to be a surprise; intelligence reports had not indicated Japanese troops. In fact, the commander of the 18th Division had been given orders to defend in the Hukawng Valley in support of 15th Army operations against India.<sup>117</sup>

In the meantime, ULTRA--unavailable to Stilwell for his planning until the arrival of Runnals--was generating intelligence that the Japanese were strengthening ground and air forces in Burma in anticipation of "forthcoming [Allied] operations in Burma." SSA believed reinforcement of the Burma Area Army was more or less continuous in anticipation of a possible allied attack.<sup>118</sup> A new Japanese communications plan

was published to facilitate traffic flow between Tokyo and Rangoon.<sup>119</sup> By December, there was evidence of the 15th Division moving from Indo-China towards the Burma front while air strength continued to increase.<sup>120</sup>

Most ULTRA intelligence on Japanese ground forces was derived from the water transport code at this time. The administrative code was only now falling to cryptanalysis, aided by capture of a copy of the code in February 1943. Thus, on 25 December 1943, Stilwell would take "at face value intelligence that he was to be attacked by the Japanese 18th and 31st Division[s]."<sup>121</sup> At least Stilwell did not have to worry about Burmese puppet troops assisting the Japanese defense. MAGIC established in December that the Japanese attempt to raise a Burmese National Defense Army was foundering.<sup>122</sup>

By January 1944, ULTRA had identified the 54th Division in the Mondan area and the 15th moving into Burma. Moreover, the 124th Infantry Regiment, 31st Division was also located in Burma.<sup>123</sup> The identification of regiments and smaller sized units was, in part, a consequence of the nature of the Japanese message traffic itself. It lent itself to tactical, as well as operational, exploitation of ULTRA if received in a timely manner. Stilwell now estimated six Japanese divisions in Burma. He put the 55th in the Arakan and the 56th along the Salween River. The 31st and 33rd were believed opposite Imphal and the 54th protecting Rangoon and the Irrawaddy Delta from amphibious attack. The 54th was, in fact, somewhat north of Rangoon and the

Delta, with headquarters near Prome, from whence it would move into the Arakan. Nevertheless, that left just the 18th opposing Stilwell's drive south which the Japanese, according to ULTRA, felt was a diversion.<sup>124</sup> The Chinese along the Salween River in Yunnan were judged to be "engaged in strictly defensive warfare."<sup>125</sup> ULTRA and MAGIC revealed the Japanese did not expect a large-scale Allied operation, possibly amphibious, until the Spring.<sup>126</sup>

In July 1943, Southern Army had suggested to Tokyo that it take the offensive against the British in India and requested reinforcement by the 2nd and 54th Divisions and the 24th IMB.<sup>127</sup> Receiving approval, Southern Army then directed the Burma Area Army on 7 August 1943 to begin planning for an offensive against the British in eastern India.<sup>128</sup> The Burma Area Army, in turn, ordered the 15th Army to begin its planning on 12 August.<sup>129</sup> On 7 January 1944, Imperial General Headquarters in Tokyo approved the plan to attack India in the vicinity of Imphal, Operation U-GO:

In order to defend Burma the Commander-in-Chief, Southern Army, may occupy and secure the vital areas of north-eastern India, in the vicinity of Imphal, by defeating the enemy in that area at an opportune time.<sup>130</sup>

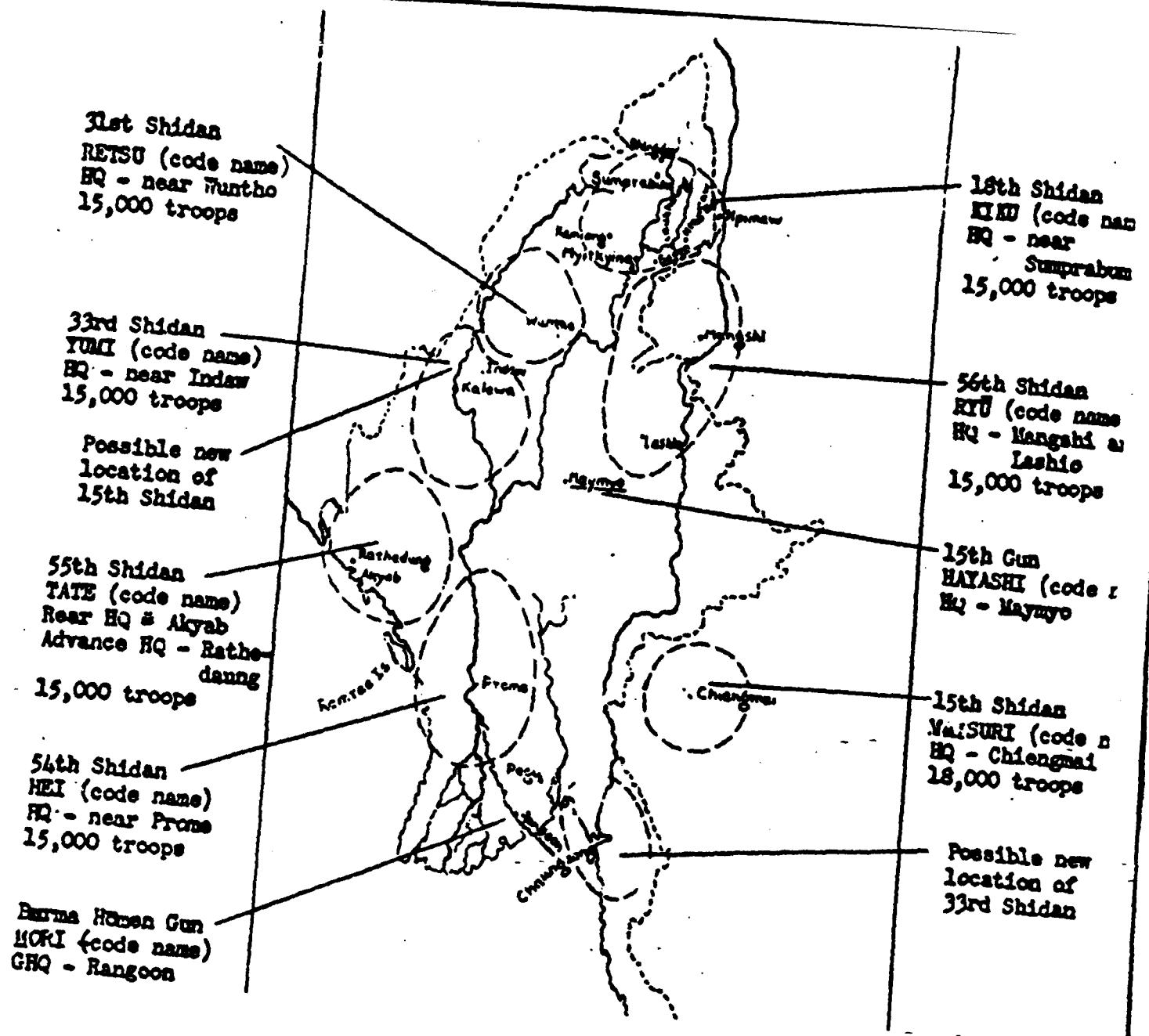
Allied intelligence did not pick this up:

The recently available Japanese traffic casts no light on Japan's intentions toward India. Last fall, however, a number of messages indicated that the Japanese were chiefly concerned with preparations for defense against Anglo-American operations in Burma.<sup>131</sup>

ULTRA provided enough intelligence that, by early February, all Japanese divisions in Burma were accurately located (Figure 1).<sup>132</sup> While the Operations Division, War Department General Staff, estimated 150,000 troops in Burma, SIGINT estimated 220,000.<sup>133</sup> On 4 February 1944, the 55th Division attacked in the Arakan to draw SEAC reserves from the impending Imphal front; the attack, Operation HA-GO, failed to achieve surprise and the British eventually blunted it.<sup>134</sup> Wingate's Chindits were once again inserted into Burma, this time in the vicinity of Indaw, to cut Japanese lines of communications to the 15th Army and to the 18th Division battling Stilwell.<sup>135</sup> The 18th Division had had a year, however, to store supplies and was not immediately affected.<sup>136</sup> A number of battalions were pulled from the 15th Army attacking Assam, the 18th Division facing Stilwell, and the 56th Division along the Salween River to deal with the Chindits.<sup>137</sup> ULTRA picked up information about the movement of a transport regiment to Burma accompanied by the phrase "the date for the next campaign is close at hand" even as aircraft were moved out of Burma.<sup>138</sup> On 24 February, the Japanese Ambassador in Bangkok radioed Tokyo that

Because of the campaign, supply facilities to Burma are very congested. Even by air immediate shipment cannot be guaranteed.<sup>139</sup>

Stilwell's diary for 4 March placed the "56th" in the vicinity of Maingkwan.<sup>140</sup> While the diary's editor supposes it to be the 56th Division, it was the 56th Infantry Regiment of the 18th Division as the 56th Division, with its headquarters at



Homen Gun -- Area Army

Gun -- Army

Shidan -- Division

Figure 1

ULTRA Portrayal of Japanese Dispositions in Burma,  
4 February 1944

SOURCE: "Notes on the Japanese Theatre [sic]," 12, 4 February 1944, n.p., in "Notes on the Japanese Theatre [sic], Coordination Section, Signal Security Agency, 16 Nov 1943-25 February 1944," 1943-1944, SRH-060, 91.

Mangshi, still guarded the Salween River. Maingkwan was captured on 5 March. ULTRA reported on the establishment of the 28th Army in Burma.<sup>141</sup> There were now eight Japanese divisions in Burma, the new divisions being the 2nd and 15th Divisions.<sup>142</sup> While Special Branch later claimed that the movement of four Japanese divisions into Burma in preparation for the Imphal offensive was discovered "far in advance" when their attack indicators were picked up, the U.S. Army official history counterclaimed that

Allied intelligence agencies were not aware that the Japanese had succeeded in massing 155,000 men for their attack on India.<sup>143</sup>

The figure of 155,000 is high for a Japanese Army (Corps equivalent) of one Type A and two Type B divisions.<sup>144</sup> Moreover, SIGINT had clearly given a figure of 220,000 in all of Burma the very day of the attack. If there was a "general underestimation of Japanese strength," it was not the fault of ULTRA. ULTRA identified the forces but not the intent.<sup>145</sup>

The Japanese attack on Imphal and Kohima began on 8 March without warning from either MAGIC or ULTRA although, by now, a Japanese attack was expected as a result of evidence from captured documents, patrols and aerial reconnaissance.<sup>146</sup> The offensive was launched a week earlier than expected and caught the British off-guard with its speed and weight.<sup>147</sup> Moreover, while only a regiment had been anticipated attacking Kohima, in fact the entire 31st Division was committed to the effort. Thus, while intelligence based on ULTRA (and SIGINT in general) could

suggest the big, operational picture, neither it nor MAGIC were oracles.<sup>148</sup>

ULTRA further indicated (11 March) the 2nd Division headquarters was about ninety miles north of Rangoon, the 4th Infantry Regiment was moving to join it, and the 32nd Division was probably enroute to Burma, the Andamans, the Nicobars, or Malaya.<sup>149</sup> By 16 March, both SECRET and TOP SECRET ULTRA OBs showed the 28th Army headquarters present in Burma; ULTRA further showed that only three battalions of the 32nd Division had moved to Burma to form what became the 24th Independent Mixed Brigade (IMB), and confirmed the 15th Division had joined the 31st and 33rd Divisions for the attack on Imphal and Kohima (Figure 2).<sup>150</sup> On 18 March, as the Japanese 15th Army threatened Imphal, Stilwell noted "This ties a can to us and finishes up the glorious 1944 spring campaign."<sup>151</sup>

ULTRA identified (22 March) a previously known but unidentified tank regiment as the 14th (in the Kabaw Valley) and located (29 March) the newly formed 24th IMB at Moulmein in the far south of Burma.<sup>152</sup> Most of the Japanese regiments in Burma were located and identified by ULTRA by this time (Figure 3).<sup>153</sup> General William J. Slim's Fourteenth Army was able to hold Imphal and Kohima in desperate fighting and Stilwell noted in relief on 3 April that

Much to my surprise, no question of help from us. On the contrary, Slim and Supreme Commander said to go ahead [with his offensive].<sup>154</sup>

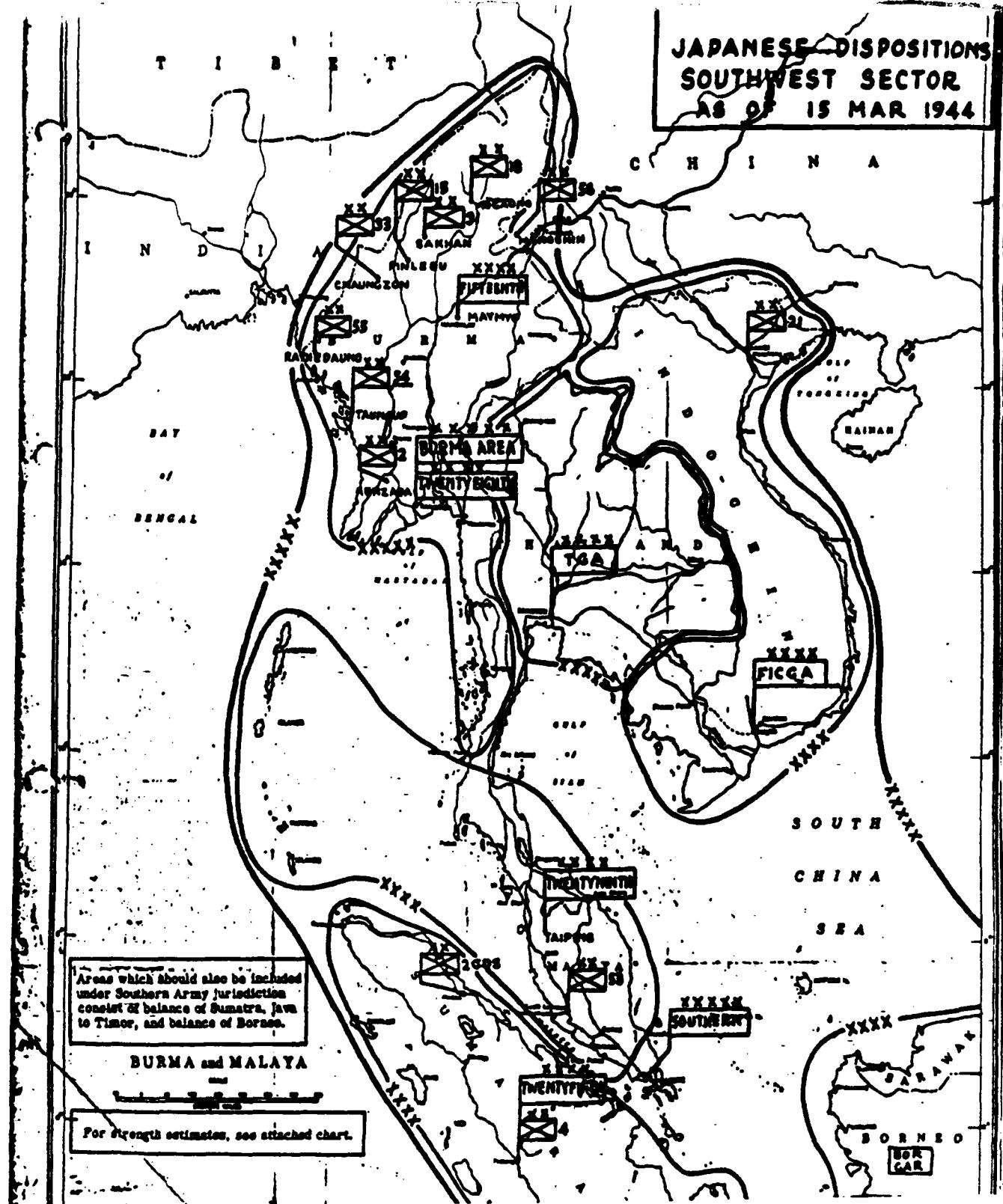
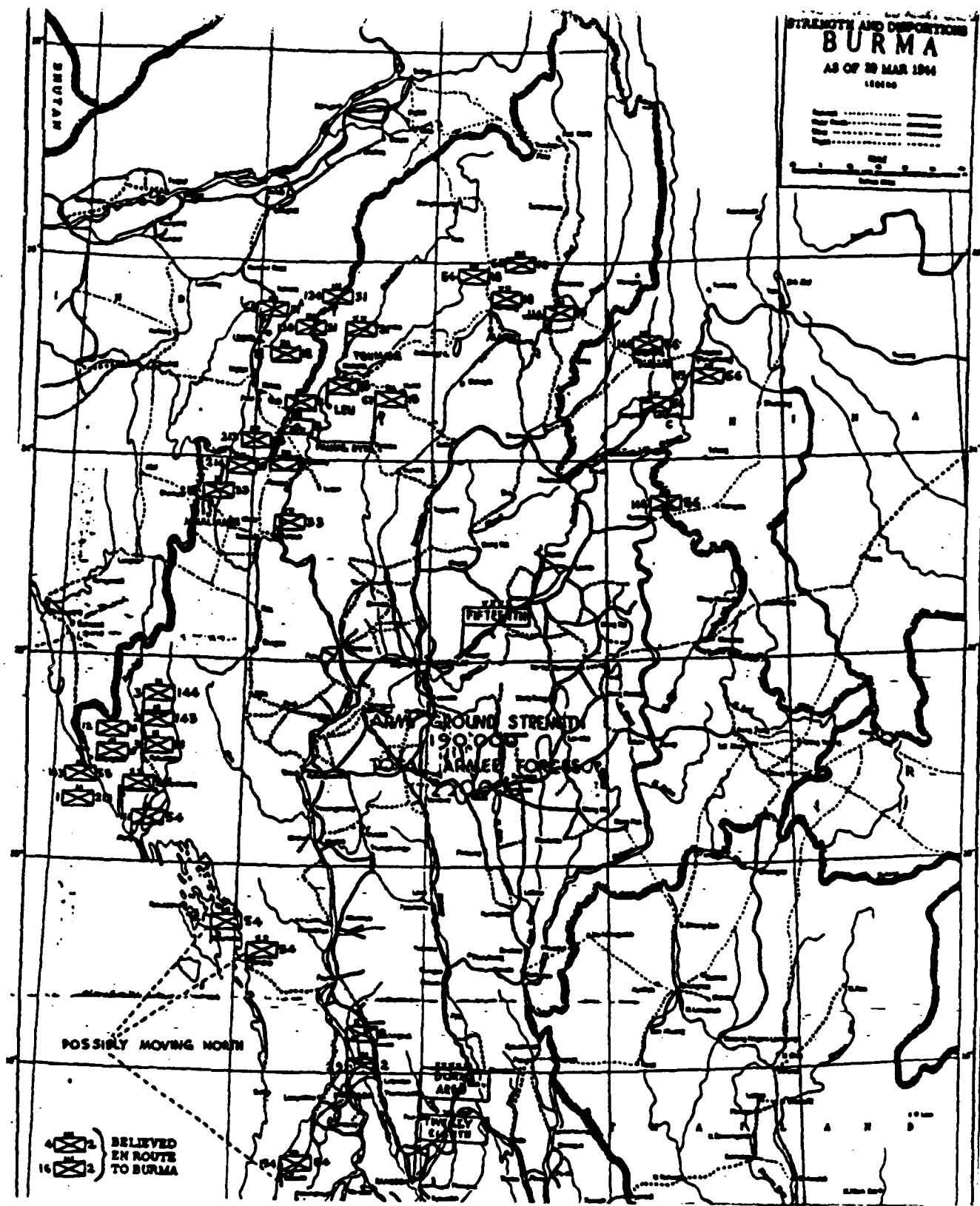


Figure 2

ULTRA Portrayal of Japanese Dispositions in Burma,  
15 March 1944

SOURCE: "ULTRA Japanese Order of Battle Bulletin," 2, 15 March 1944, SRH-129, 90.

Copy overfurnished to DDC does not permit fully legible reproduction



**Figure 3**

**ULTRA Portrayal of Japanese Dispositions in Burma,  
29 March 1944**

SOURCE: "ULTRA Japanese Order of Battle Bulletin," 4, 29 March 1944, SRH-129, 106.

Copy restrictions to DDC does not  
permit fully legible reproduction

First one then two regiments of the 53rd Division were identified by ULTRA en route to Moulmein (30 March; 5, 12, 15 April) where the 24th IMB, now known to have four battalions, was headquartered; the second regiment of the 53rd was later found (26 April) held over in Saigon.<sup>155</sup> The Japanese had by now detected Chinese offensive preparations across the Salween River but believed that they would stay put as long as the Japanese offensive toward India was successful.<sup>156</sup> The Chinese attacked on 11 May.

Stilwell noted in his diary (26 April) that "Joe [Joseph W. Stilwell, Jr., his son] has news that Japs are building up on us at Myitkyina."<sup>158</sup> Stilwell fils was G-2 of NCAC and cleared for ULTRA intelligence. On 1 May, Stilwell mused "Will they [5307th Composite Unit (Provisional), i.e., GALAHAD or "Merrill's Marauders"] meet a reinforced garrison [at Myitkyina]?" and, further, "Are the Japs being sucked towards Mogaung or is [Jap] unit staying in Mitch [Myitkyina]?"<sup>159</sup>

On 3 May 1944, the U.S. Joint Chiefs of Staff ordered the CBI to provide air support to ongoing operations in the Western Pacific thus lending impetus to the capture of Myitkyina as soon as possible. A new CBI plan to capture the Mogaung-Myitkyina area led to commitment of two additional Chinese divisions to the fight, bringing to five the number of Chinese divisions (plus the American GALAHAD) against the battered 18th Division.<sup>160</sup> Stilwell's plans were to conduct a demonstration in the Mogaung Valley while conducting an envelopment east over the Kumon Range

to drive to Myitkyina.<sup>161</sup> Colonel Charles W. Hunter and GALAHAD reached the Myitkyina airfield on 17 May and the next day Stilwell noted that the Japanese had not yet been located in the vicinity of Myitkyina.<sup>162</sup> While Brigadier General Frank Merrill estimated two and a half battalions were in the town, with more coming, Colonel Stilwell was skeptical; General Stilwell believed that the town was held by only a few hundred enemy soldiers.<sup>163</sup> General Stilwell believed that the Japanese reinforced Myitkyina only after Chinese tactical errors.<sup>164</sup> The U.S. Army Official History remarks that

the local intelligence agencies gained the mistaken impression that they were faced by relatively few Japanese.<sup>165</sup>

In fact, the town was defended by the 114th Infantry Regiment of the 18th Division. Moreover, the 53rd Division (four infantry and two artillery battalions) were sent to attack the Sino-American forces from the rear while the 4th Infantry Regiment of the 4th Division and elements of the 24th IMB conducted supporting operations. The attack was forestalled by a requirement for the 53rd Division to go to the aid of the 18th Division.<sup>166</sup> Eventually the garrison would number three thousand and bitter fighting would ensue before Myitkyina was finally secured.<sup>167</sup> Thus can lack of tactical intelligence affect operational plans.

Even as GALAHAD closed in on the Myitkyina airfield, the Chinese--with American advisors--were beginning the Salween Campaign (11 May-30 June 1944) to cross the Salween River and

attack the Japanese 56th Division whose dispositions were known and which was understrength.<sup>168</sup> Only on 14 April had the Chinese formally agreed to the crossing of the Salween, thus considerably diluting the potential results that might have accrued if the campaign had begun back in December or January.<sup>169</sup> The twin objectives of Y-Force were Teng-chung and Lung-ling with the intention of conducting a double envelopment and splitting the enemy. Stilwell hoped that a line of Mongmit-Lashio-Takaw-Monglen could be held.<sup>170</sup> The Americans, who provided advice (often ignored) and support, exchanged intelligence with the Chinese but, as noted, only at the SECRET level. The Americans were privy to ULTRA intelligence which had located the regiments of the 56th Division back in March.<sup>171</sup> The Chinese had only agreed to the campaign, late as it was, in the belief that no major Japanese attack was expected in China itself. What they did not know was that as early as 17 January, Imperial General Headquarters had decided to capture the east China airfields used by the Fourteenth Air Force, viz., Operation ICHI-GO.<sup>172</sup> Nevertheless, the Chinese were able to achieve their objectives, after hard fighting, knowing that they outnumbered the Japanese by at least five to one.

The Japanese viewed the situation as serious indeed and, in May, postponed an exchange of diplomats between Bangkok and Rangoon "in view of the circumstances in Burma."<sup>173</sup> As early as 29 April, ULTRA identified a major new headquarters at Maymyo, later determined to be the 33rd Army.<sup>174</sup> It would control both

the 18th and 56th Divisions as well as elements of the 2nd and 53rd Divisions in Northern Burma.<sup>175</sup> The Army's mission was to fight the Allies in the Hukawng Valley and the Chinese in Yunnan Province, destroy the Chindits, and guard the right flank of the 15th Army.<sup>176</sup> The 15th Army headquarters moved from Maymyo to Indainggyi the better to control continuing fighting in Assam and Manipur State.<sup>177</sup> It controlled the 15th, 31st and 33rd Divisions as well as elements of the 54th Division south of Bishenpur. Finally, the 28th Army, headquartered at Maudaing until May when it moved to Paungde, controlled the 54th and 55th Divisions (in the Arakan) and elements of the 2nd Division in Southern Burma.<sup>178</sup> All remained subordinate to the Burma Area Army in Rangoon.<sup>179</sup> The tasks of the Burma Area Army Commander were to "crush" the enemy's attacks, to stabilize and secure

the W[est] bank of the Salween R[iver], and the key points in N[orth] Burma which cut off contact between India and China; the area around Kohima and the key points in the mountain ranges to the S[outh] and W[est] of Manipur; and the key coastal points around and S[outh] of Akyab...block connections between China and India and...strengthen the military preparations of the S[outh]W[est] coast.<sup>180</sup>

Available air support was reduced when the battle headquarters of the 5th Air Division withdrew from Kalaw to Rangoon on 5 Jun, probably as a result of the monsoon.<sup>181</sup> The Japanese still continued their fixation with Allied amphibious assault.<sup>182</sup>

Kamaing was taken by Stilwell on 16 June and Mogaung on the 26th. On 5 July, the 15th Army was ordered to suspend its offensive in Assam.<sup>183</sup> In North Burma, Myitkyina itself was

finally secured on 3 August.<sup>184</sup> The effect of the loss of Myitkyina was anticipated on 22 July:

The loss of Myitkyina could create a very serious situation because it serves as the key to the Army's Western sector and is so deeply involved in blocking the India to China route.<sup>185</sup>

With relief, Stilwell noted on 4 August "Myitkyina--over at last."<sup>186</sup> Success of the Second Burma Campaign and the continuing pressure on the 18th Division, as well as the Japanese loss of the garrisons defending La-meng and Ten-chung to the Chinese on the Salween Front, resulted in the halting of Operation DAN, a 33rd Army counteroffensive against the Chinese in the vicinity of the Salween.<sup>187</sup> In August, ULTRA confirmed the presence in the vicinity of Imphal of two battalions of the 61st Infantry Regiment of the Sumatra based 4th Division, and noted evidence that the newly formed 49th Division was being moved from Korea to Burma. ULTRA further confirmed the movement of substantial replacements into Burma--up to ten thousand replacements a month were planned--to replace "extreme" casualties.<sup>188</sup> Only forty percent of Japanese fighter pilots in Burma were classified as Class A, i.e., ready for combat.<sup>189</sup> The Japanese believed that their withdrawal from Imphal was "generally successful."<sup>190</sup> Meanwhile, the Japanese supply situation was worsening.<sup>191</sup>

#### North and Central Burma Campaigns

In September, the Burma Area Army was instructed to "hold that part of Burma south of the Lashio-Mandalay line and east of

the Irrawaddy River.<sup>192</sup> The 33rd Army would defend on the line Lashio-Bawdwin-Monglong (Operation DAN). The 15th Army would defend in zone from Mandalay along the Irrawaddy River to Yenangyaung (Operation BAN). The 28th Army would repel amphibious attacks and hold a line from Yenangyaung along the Arakan Mountain Range to Bassein and Rangoon (Operation KAN). The Japanese also began implementing defensive measures for Japanese civilians in Rangoon, an expression of their concern for the situation.<sup>193</sup>

On the basis of ULTRA and traffic analysis, Allied intelligence pieced together Japanese changes in their dispositions.<sup>194</sup> As the battered 18th Division had been relieved by the 53rd Division in July, so too, reported ULTRA, was the 56th Division by the 2nd Division which was moved northward from the Southwest Burma coastal region.<sup>195</sup> In fact, the 2nd Division had been sent to join the 56th in Operation DAN.<sup>196</sup> This movement along with the shift of the 33rd Army headquarters from Maymyo forward to Mangshih suggested that a counteroffensive was planned.<sup>197</sup> The 15th Army headquarters, which had directed the unsuccessful attack on Imphal, had withdrawn from Indainggyi to Shwemyin and then to Shwebo. The 15th and 31st Divisions had withdrawn to the east bank of the Chindwin River while the 33rd Division, under "considerable pressure," was probably ready to withdraw also.

There was little action in the Arakan and along the Southwest Burma coast. The 55th Division was in contact with the

Allies while the 54th and 2nd (until its transfer north) Divisions were arrayed along the coast from Akyab to Rangoon. The 55th Division seemed to be moving south to fill the gap. As there was no indication of a change in the responsibility of the 54th Division "the defenses of the N[orth] Arakan appear to have been weakened considerably." The 49th Division was still enroute to Burma and plans for its disposition were unknown. Air activity had been reduced as a result of the monsoon. The changes suggested

a continued Japanese intention (i) to block construction of an overland supply route between India and China, (ii) to remain on the defensive along the India-China border, and (iii) to guard against Allied landings on the S[outh]W[est] Burma coast.<sup>198</sup>

The Japanese War Ministry expected a British offensive in November--from the Nicobars and Andamans--rather than "a simultaneous attack...in the west, north and east."<sup>199</sup> If Germany failed to hold the Allies in Europe, the Japanese saw their own situation worsening.<sup>200</sup> The British offensive, Operation CAPITAL, began in mid-October and was launched from India with a supporting attack into the Arakan.<sup>201</sup> At this time, ULTRA revealed that the Japanese had been "reading [unit deleted] radio communications about Allied operations on the N[orth] Burma and Salween fronts," and an investigation was ordered to determine corrective action.<sup>202</sup> The 5th Air Division reopened its forward headquarters at Kalaw, and the 49th Division was at last tentatively located at Pegu, about forty miles northeast of Rangoon, after having completed its deployment from Korea.<sup>203</sup>

ULTRA indicated that it was or might be subordinated to the 33rd Army with elements moving north to Mongmit on the Salween Front.<sup>204</sup> Japanese losses even before Operation CAPITAL were highlighted in November when ULTRA revealed that 35,000 replacements had been requested in the period June through August, and that 23,000 had embarked or were scheduled to embark from Japan during June and July. As the trip was estimated to take from four to six months, the replacements would begin arriving in November and December.<sup>205</sup>

Japanese estimates of U.S. air strength in the CBI were remarkably accurate, i.e., thirteen hundred estimated vice 1479 actual squadron aircraft.<sup>206</sup> The Japanese still expected operational landings in the Nicobars and Andamans.<sup>207</sup> The Imperial General Staff also expected a twenty division Sino-American attack against Mangshih, Bhamo, and Katha at the end of the rainy season, a six or seven division Anglo-Indian attack southward in the direction of Mandalay, and landings along the Southwest Burma coast.<sup>208</sup> The Vice Chief of the Imperial General Staff provided estimates of Allied strength in Burma which were quite accurate:

	<u>Japanese Estimate</u>	<u>Actual</u>
India	10 Division	6 Divisions
North Burma	20 Chinese and 6-7 Anglo-Indian Divs.	21 Chinese and 7 Anglo-Indian Divs.
Arakan	3 Divisions	3 Divisions <sup>209</sup>

The German Military Attaché in Bangkok informed his naval counterpart in Tokyo on 23 November that the Commanding General of the Japanese Thailand Garrison Army told him

Considerable landings W[est] of Rangoon are expected, along with operations against the Andamans and the Nicobars. Preparatory measures are in progress [including a plan] to use tanks in increasing numbers in the lowlands around Rangoon and Bangkok.<sup>210</sup>

Based on ULTRA, Allied intelligence in early December estimated the Allied advantage in air strength in Southeast Asia at five and a half to one as a result of Japanese aircraft deployments to the Philippines.<sup>211</sup> The Allies had, by now, achieved air supremacy in the skies above Burma.<sup>212</sup> The India-Burma Theater G-2 reported

Ultra information and traffic analysis indicate that Japanese troops have been ordered to evacuate North Burma and to put up only delaying actions in that sector.<sup>213</sup>

There was evidence the 2nd Division had been withdrawn from the Salween Front to the vicinity of Rangoon, that the 49th Division still maintained its headquarters in Pegu, and that most headquarters in North Burma had been moved south.<sup>214</sup> This estimate was confirmed in an intercept of a message from the Japanese Foreign Minister to his ambassador in Moscow to the effect that

We are in the process of evacuating the northern part and the eastern [Salween] part of Burma. I understand that we intend to hold the railway line between Lashio and Mandalay and also the area to the south.<sup>215</sup>

The Allied advance in North Burma was meeting little resistance but the Foreign Minister's message dashed the hope, once considered possible, of a Japanese evacuation of Burma within three months. The 28th Army was reported strengthening the 54th Division and preparing for a counterattack north of Akyab in the Arakan.<sup>216</sup> The Japanese also continued to focus attention on the southwest coast because of reports of "Allied ships in the Chittagong area and other factors."<sup>217</sup> The 72nd IMB, a new brigade believed formed from units already in the area, was tentatively located at Yenangyaung (125 miles southwest of Mandalay) on 23 December.<sup>218</sup>

By January, the picture was "gloomy" for the Japanese War Ministry.<sup>219</sup> Early in January the Rangoon River was closed to steel ships as a result of Allied aerial mining.<sup>220</sup> In Rangoon itself the Japanese expected an enveloping attack by the Chinese in the Namhkan area, and an offensive by the British Fourteenth Army in Central Burma to take Mandalay. In the Arakan, the Japanese were withdrawing northeast from Akyab to the vicinity of Myohaung and Minbya.<sup>221</sup> In anticipation of Allied operations in Thailand, the 2nd Division (less one infantry regiment and one artillery battalion) was ordered on 14 January to redeploy to Thailand "as quickly as possible," the move to be completed by the end of February.<sup>222</sup> The Burma Area Army was ordered to "cancel preparations for the counterattacks in [the unavailable] Southern Army Operational Order #330."<sup>223</sup> On 21 January, the 15th Army in the vicinity of Mandalay was reported preparing a

counterattack against the Allies in Wetlet (thirty five miles northwest of Mandalay) although they had driven twenty miles beyond the town by 17 January.<sup>224</sup> This suggests that the Japanese were beginning to lose control of their operations.

Throughout February, MAGIC reported on the increasing isolation of Rangoon and Burma.<sup>225</sup> On 1 February, the G-2, New Delhi, forwarded an estimate of Japanese intentions in Burma by Allied Land Forces Southeast Asia (ALFSEA, a subordinate command of SACSEA) based, in part, on ULTRA.<sup>226</sup> ALFSEA believed that the movement of the 2nd Division to Thailand could be canceled if the Fourteenth Army moved faster than the Japanese anticipated. The Japanese were expected to withdraw from Minbya (Myohaung having been occupied by the Allies on 26 January) southward to Dalet. In Central Burma, the Japanese were expected to defend at Yenangyaung, the 31st Division and 15th Army headquarters having withdrawn, respectively, to Kyaukse and south of Kyaukse; counterattacks were defensive in nature. Further withdrawals were expected in Northeast Burma. The Japanese were reported laying mines off the southern tip of Burma.<sup>227</sup>

ULTRA reported the withdrawal of the forward headquarters of the Burma Area Army from Maymyo (twenty five miles east of Mandalay) to Kalaw (ninety five miles south-southeast of Mandalay).<sup>228</sup> The German Military Attaché to Bangkok reported to Berlin that the Japanese expected to hold Burma throughout 1945, that the 21st Division [in northern Indo-China] was being moved

to Burma, and that the forces in Burma could not be further reinforced.<sup>229</sup>

A G-2, India-Burma, intelligence summary (as of 21 February and based, in part, on ULTRA), pictured the Japanese thinking the British bridgehead in the Myinmu sector to be the major threat they faced.<sup>230</sup> The 15th Army forward headquarters had been moved to the Zibyu Mountains (thirty miles southwest of Mandalay) to control the 31st, 33rd and 53rd Divisions in containing the British. Furthermore, the 15th Division was found moving south along the Irrawaddy from Kyaukmyaung. The Japanese also appeared to believe that operations in the Pegu area were a diversion and had therefore moved the 16th Regiment of the 2nd Division to assist the 15th Army.<sup>231</sup> This left them without tactical reserves in the Pagan-Meiktila area where the 33rd Army was defending. The G-2 concluded that

the Japanese have guessed wrong as to the strongest Allied drive, which will result in the disruption of their plans for defense north of the Meiktila-Kalaw-Loilem line.<sup>232</sup>

Thus did the Japanese pay for their long fixation on the west coast of Burma.

As the British moved south, the Burmese National Defense Army was sent to bolster Japanese defenses. Seeing which way the wind was blowing, it revolted 17 March 1945 and a large part of the army (five of six thousand) deserted, including the commander.<sup>233</sup> The Japanese disarmed those who remained.<sup>234</sup> Diplomatic messages from Rangoon provided information after the fact.<sup>235</sup> By the end of March, plans were laid for partisan

activities under Japanese direction.<sup>236</sup> Japan's puppet leader of Burma, Dr. Ba Maw, requested evacuation of his family on 5 April.<sup>237</sup> As the military situation deteriorated, Japanese concern for the safety of their civilian nationals increased until it was decided to evacuate all except reservists to Bangkok; the ambassador, Ba Maw and his cabinet evacuated to Moulmein.<sup>238</sup>

That the Japanese knew the end was at hand is suggested by an order to destroy airfields, even in places far from the Allied forces.<sup>239</sup> A warning was sent from Rangoon on 20 April on the necessity of being on guard against landings at the mouth of the Rangoon River in view of the "continuous bombing" of positions there.<sup>240</sup> The Southern Army expected "a campaign to seize Rangoon at once."<sup>241</sup> Any doubt of the end was dispelled by evidence that the Burma Area Army headquarters was being transferred from Rangoon, and by a message from Base Force 13 (the top Japanese Navy command in Burma) warning that "the tide of battle is changing rapidly."<sup>242</sup> The message went on to order naval units to defend the Rangoon area, destroy secret publications, and quickly evacuate equipment and personnel "not directly necessary in the battle for the defense of Rangoon."<sup>243</sup> Demolitions were executed even as the city was wracked by "revolts everywhere."<sup>244</sup> Japanese Army forces were fully committed elsewhere and there were few troops available to defend the capital. The 15th Army was covering the withdrawal of the

33rd Army to the mouth of the Sittang River after which it planned to withdraw to Moulmein.<sup>245</sup>

On 1 May, the British launched Operation DRACULA, an amphibious landing at the mouth of the Rangoon River. These forces entered Rangoon the next day and, on 6 May, linked up with British forces moving toward the city from the north. The Burma Area Army, now headquartered in Moulmein, received orders from Southern Army on 16 May to "form the forward defense line for the Indo-China peninsula" in order to thwart any Allied move on Singapore or northern Thailand while the 3rd Air Army "neutralize[d] Allied air and sea bases in the southern Burma area."<sup>246</sup> While the Japanese were making attempts to defend in the Prome area, Base Force 13 (now in Moulmein) expected those forces to be withdrawn because of the loss of communications facilities as a result of the monsoon. It further estimated that only about thirty thousand combat troops remained, or the equivalent of two-plus divisions. Base Force 13 thought the 28th Army, having sustained the lightest casualties, was preparing operations in a pocket in the Pegu Mountains (north of Rangoon) but information was limited due to the communications situation.<sup>247</sup>

The Japanese did not feel that they could hold Moulmein and were anticipating a further withdrawal to Kawkareik (northeast of Moulmein) and south along the Burma-Thai Railroad.<sup>248</sup> In early July, ULTRA indicated what was left of the 28th Army would attempt a breakout from the Pegu Mountains eastward across the

Sittang River on 20 July.<sup>249</sup> It occurred as scheduled when the 33rd Army launched a limited offensive west across the Sittang River to assist the 28th Army conduct its breakout.<sup>250</sup> The Army was enroute to Bilin when the war ended.

The 39th Army in Thailand was now converted into the 18th Area Army, perhaps in anticipation of a general withdrawal from Burma to Thailand.<sup>251</sup> The Burma Area Army still controlled nine under-strength divisions in three armies.<sup>252</sup> The 55th Division, with five thousand troops the strongest of the nine divisions, was to be shifted to Phnompenh in southern Indo-China for rebuilding.<sup>253</sup> The 15th Army was then transferred from control of the Burma Area Army to the 18th Area Army, further lending weight to the probability of withdrawal from Burma.<sup>254</sup> The 15th Division (less than fifteen hundred) began withdrawing to Thailand via Moulmein with indications that the 56th Division would follow.<sup>255</sup> A 4 August message from the Burma Area Army gave the following schedule for troop withdrawals from Burma in August and September:

August	Troops	7,800
	Patients	4,000
September	Troops	15,000
	Patients	<u>4,000</u>
Total		30,800

If the situation permitted, some of the troops scheduled for September would be shipped in August.<sup>256</sup>

### The End of the War

Following the atomic bombings of Hiroshima (6 August) and Nagasaki (9 August), the Soviet invasion of Manchuria (8 August), and the first Japanese offer of surrender (9 August), Southern Army instructed its subordinate units, including the Burma and 18th Area Armies, that

Each Army under our command and jurisdiction, in no way confused or blinded by scheming propaganda, will establish a unified and firmly united military discipline and will go ahead to strengthen its war preparations and more.<sup>257</sup>

On 14 August, the Japanese War Ministry sent principal field commands a general cease-fire directive. Nineteen hours later, Southern Army relayed it to its own subordinate commands, with the following message three hours later:

Although an Imperial statement concerning the acceptance of the Potsdam declaration has been issued, each Army under our command will still continue to carry out its present duties. As long as the Southern Army has no orders, you are not to enter into any negotiations with the enemy, but are to continue to repel him.<sup>258</sup>

On 16 August, the Emperor issued an order to the Armed Forces to immediately cease hostilities.<sup>259</sup> A cousin of the Emperor, Prince Kanin, was designated as the emissary to deliver the order to Southern Army.<sup>260</sup> On the night of 17-18 August the Southern Army Commander, Field Marshal Count Terauchi, radioed his subordinates that "I will observe the...Imperial edict as a law that must be obeyed."<sup>261</sup>

Following the surrender, Japanese Army radio communications dropped by nearly half in the space of ten days but, in contrast

to the Navy which began supplanting coded messages for ones in plaintext. most of the communications continued to be transmitted in code.<sup>262</sup> On 29 August, Southern Army informed Tokyo that messages would henceforth be sent in plaintext until the Allies granted permission to resume the use of codes.<sup>263</sup> In September, the "Far East Summary," hitherto published daily, began to appear less frequently. The last issue (so far released) was published on 2 October 1945.<sup>264</sup> Unlike ULTRA, MAGIC came to a formal close on 3 November when the Japanese Foreign Ministry discontinued radio communication on 2 November 1945.<sup>265</sup>

### Conclusion

Lessons learned by MIS included first, the requirement that one director be responsible for interception, cryptanalysis, translation and production of SIGINT. Second, that there be direct communication and consultation between intelligence officers and cryptanalysts and translators. Third, that ULTRA intelligence officers be acquainted with operational plans. Fourth, that ULTRA be combined with other intelligence.<sup>266</sup> MIS was of the opinion, by the end of the war, it was collateral intelligence which solved high-grade cryptographic systems.<sup>267</sup> The Japanese, for example, were more security-minded by 1945. Nevertheless, their overall standard was uneven.<sup>268</sup>

MAGIC failed to provide either strategic or operational warning of the Japanese invasion of Burma. During the mercifully short First Burma Campaign, MAGIC was of little or no use to the

Allies. ULTRA was not yet available. As Stilwell and his fellow commanders began the rebuilding process, MAGIC suggested (April 42) the future line of Japanese thinking towards India. Later in the year (September-November 1942), MAGIC provided hints, and only hints, of planning for the future Japanese invasion.

ULTRA and traffic analysis, later called THUMB, could identify and locate units. When ULTRA intelligence was finally made available to the CBI in late 1943, it began to clear up the picture of Japanese forces in Burma. The production of intelligence from ULTRA was still in its infancy, however, and Stilwell's troops were surprised when they collided with Japanese troops at the very start of the Second Burma Campaign.

The Summer 1943 analysis of Japanese military expenditure budgets based on ULTRA information led to the conclusion there would not be a Japanese invasion of India any time soon. In September 1943, MAGIC revealed Japanese intentions for a "real defense" of Burma and (with traffic analysis) alerted the Allies (October 1943) to reinforcements being sent to Burma. Strengthening of air assets in Burma was detected in November. The Japanese, however, thought of defense in offensive terms. What seemed to be preparation for defense was preparation for invasion. The Allies did not divine the Japanese plan to attack India until relatively late, when they were beginning their own push. Even then, the warning came by conventional means, viz., the capture of documents, and ground and aerial reconnaissance.

In the Spring of 1944, Japanese forces along the Salween River were accurately known prior to the Chinese offensive. By June, the Allies knew the general outline of Burma Area Army plans for defending Burma. By August, ULTRA confirmed the Japanese were suffering heavy casualties following the loss of Mogaung and Myitkyina, and in the wake of the failure of Operation U-GO.

Late in the year, ULTRA provided evidence of a planned Japanese counteroffensive following the weakening of the forces in the Arakan. By November 1944, the Japanese were desperate for replacements. In December, ULTRA was able to inform the Allies of the general Japanese withdrawal to Central Burma. ULTRA also tracked the continuing Japanese focus on invasion from Andaman and Nicobar Islands.

In early 1945 (February), MAGIC revealed the increasing isolation of Rangoon and Burma while ULTRA disclosed the continued Japanese withdrawal, e.g., the withdrawal south of the Burma Area Army forward headquarters. The Allies were able to estimate that the Japanese guessed wrong as to where the main Allied drive was coming from and take advantage of the fact.

In April, ULTRA established that the Burma Area Army headquarters was abandoning Rangoon for Moulmein. ULTRA could unveil Japanese plans, but the Allies could not always take advantage of it. Thus, while the planned July breakout of the 28th Army from the Pegu Mountains was known to the very day, the Allies were too thinly spread to intervene. At the end of the

war, the planned withdrawal from Burma in August as part of the Southern Army's intent to contract its outer defense perimeter was made known by ULTRA.

The exploitation of MAGIC in the CBI yielded more in the strategic realm than in the operational. It failed to provide advance warning of the initial Japanese invasion of Burma, of the Japanese offensive against India, or of the 1944 ICHI-GO offensive in China. It did confirm the Japanese OB in early 1943 and the transfer of air assets elsewhere at that time. Tactically, it often provided confirmation, in conjunction with ULTRA, of the results of the aerial efforts of the Tenth and Fourteenth Air Forces. Perhaps its greatest value was to alert the Allies to the Japanese fixation with amphibious attack against southwest Burma.

As for ULTRA, the message traffic in the CBI was almost exclusively military. Thus, the more narrative naval messages were absent in the CBI unlike in the Central and Southwest Pacific Theaters. Although broad summaries of plans or movements were infrequent, ULTRA nevertheless was almost the only source of information on Japanese plans and movements. It was, furthermore, the major source of intelligence on Japanese air activities. As the war progressed, ULTRA became more valuable in revealing Japanese intentions at the operational level. It proved most valuable when fused with THUMB and supported by other intelligence. As with MAGIC, ULTRA served a valuable service in confirming intelligence derived from other sources. The SSO was

very important in that he both supplemented and corrected the open picture of intelligence, thus underlining the importance of using all intelligence sources.<sup>269</sup> This is best illustrated by the remark of an SSO on 27 February 1945 after he used ULTRA intelligence (which, of course, he did not reveal) to steer photo reconnaissance to an industrial plant: "Seed now planted photo boys which will enable them to 'discover' lime soda process[ing plant]."<sup>270</sup>

In a comment on SIGINT, MIS noted that, at war's end, signals exploitation in the field was "in the most elementary stages" due, in part, to a critical shortage of translators.<sup>271</sup> By inference, a trained pool of cryptanalysts and translators was also a requirement for future SIGINT activities.<sup>272</sup> Another lesson was that ULTRA intelligence be put into the hands of the appropriate commander as quickly as possible.<sup>273</sup> Although it did not provide a "magic" key to Japanese intentions, the ultimate value of ULTRA was expressed in the commendations of SSA and MIS activities by Stilwell's successors, Lieutenant General Albert C. Wedemeyer, Commanding General, China Theater, and Lieutenant General Raymond A. Wheeler (Daniel I. Sultan's replacement), Commanding General, India-Burma Theater.<sup>274</sup>

## ENDNOTES

<sup>1</sup>David Kahn, The Codebreakers: The Story of Secret Writing (N.Y.: Macmillan Publishing Co., Inc., 1967).

<sup>2</sup>F.W. Winterbotham, The Ultra Secret (N.Y.: Dell Publishing Co., 1974).

<sup>3</sup>Tuchman mentions MAGIC once. Barbara W. Tuchman, Stilwell and the American Experience in China, 1911-45 (Toronto: Bantam, 1972); Louis Allen, Burma: The Longest War: 1941-45 (N.Y.: St. Martin's Press, 1984); E.D. Smith, Battle for Burma (N.Y.: Holmes and Meier Publishers, Inc., 1979); and Don Moser, China-Burma-India, World War II (Alexandria, VA: Time-Life Books, 1978).

<sup>4</sup>Claude J.E. Auchinleck, Operations in the Indo-Burma Theatre Based on India from 21 June 1943 to 15 November 1943 (London: His Majesty's Stationery Office, 1948); Louis [F.A.V.N.] Mountbatten, Personal Diary of Admiral the Lord Louis Mountbatten, Supreme Allied Commander, South-East Asia, 1943-1946, ed. Philip Ziegler (London: Collins, 1988); William [J.] Slim, Defeat into Victory, new ed. (N.Y.: David McKay Co., Inc., 1961); Joseph W. Stilwell, The Stilwell Papers, ed. Theodore H. White (N.Y.: William Sloane Associates, 1948; Schocken, 1972); Archibald Percival Wavell, Wavell: The Viceroy's Journal, ed. Penderel Moon (London: Oxford University Press, 1973); and Albert C. Wedemeyer, Wedemeyer Reports! (N.Y.: Holt, 1958).

<sup>5</sup>Ronald Lewin, The American Magic: Codes, Ciphers and the Defeat of Japan (N.Y.: Farrar Straus Giroux, 1982). The original, British edition is entitled The Other Ultra (London: Hutchinson, 1982).

<sup>6</sup>"Selected Examples of Commendations and Related Correspondence Highlighting the Achievements and Value of U.S. Signals Intelligence during World War II," n.d., Special Research Histories [SRH]-059.

<sup>7</sup>The U.S. Army defines a campaign as "a series of joint actions designed to achieve a strategic objective in a theater of war." Campaigns may be sequential or, when there are more than one theater of operations in a theater of war, simultaneous. Field Manual 100-5, Operations (Washington, D.C.: Headquarters, Department of the Army, 1986), 10. The U.S. Army recognizes the First Burma Campaign as "Burma 1942" (7 December 1941-26 May 1942). The Second Burma and Salween Campaigns are included in "India-Burma" (2 April 1942-28 January 1945). The North Burma Campaign overlaps "India-Burma" and "Central Burma" (29 January-15 July 1945). Change 4 (1962), in Department of the Army Pamphlet 672-1, Unit Citation and Campaign Participation Credit

Register (Washington, D.C.: Headquarters, Department of the Army, 1961), 1.

<sup>8</sup>Kahn, xvi. During the war, SIGINT was defined as "interception of enemy or neutral communication and radio transmissions, and their solution...[and the] resulting intelligence." "War Department Regulations Governing the Dissemination and Security of Communication Intelligence, 1943-1945," [1945] SRH-044, 37. In comparison, current U.S. Army doctrine defines signal intelligence as

the product resulting from the collection, evaluation, analysis, integration, and interpretation of information derived from intercepted electromagnetic emissions. It is divided into communications intelligence (COMINT), electronic intelligence (ELINT), and foreign instrumentation signals intelligence (FISINT)...COMINT consists of information derived from intercepting, monitoring and locating the enemy's communications systems.

FM 34-1, Intelligence and Electronic Warfare Operations (Washington, D.C.: Headquarters, Department of the Army, 1987), 2-13. Signals intelligence as a whole comprises the interception, identification and locating of emitters. FM 34-3, Intelligence Analysis (Washington, D.C.: Headquarters, Department of the Army, 1990), 1-6, 8-2.

<sup>9</sup>Traffic analysis comprises direction finding (DF) fixes, message-flow studies, and radio fingerprinting. Ibid. Lewin gives roughly the same breakdown, only using "code breaking" in place of cryptanalysis. Lewin, 164. During the war, the application of interception, traffic analysis and cryptanalysis to U.S. signals was also subsumed under communications research. "Collection of Memoranda on Operations of [Army] SIS [Signal Intelligence Service] Intercept Activities and Dissemination, 1942-1945," 1942-1945, SRH-145, 58. The SIS was renamed the Signal Security Service in 1942 and the Signal Security Agency in 1943. Kent R. Greenfield, gen. ed., The U.S. Army in World War II (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1966), vol 6, The Technical Services, part 5, vol. 3, The Signal Corps: The Outcome (Mid-1943 through 1945), by George Raynor Thompson and Dixie R. Harris, 313, 337; and Lewin, 132n.

<sup>10</sup>Kahn, xiv.

<sup>11</sup>Ibid.

<sup>12</sup>Ibid., xv.

<sup>13</sup>"The methods of cryptography [the encoding or enciphering of messages]...[do] not conceal the presence of a secret message but render it unintelligible to outsiders by various transpositions of the plaintext." *Ibid.*, xiii, xv.

<sup>14</sup>Lewin, 36.

<sup>15</sup>Quoted in *Ibid.*, 42.

<sup>16</sup>*Ibid.*, 43.

<sup>17</sup>*Ibid.*, 55, 56, 56n, 89, 242, 243.

<sup>18</sup>*Ibid.*, 33-34. In 1942, the Japanese ambassador to Germany believed that low-level Japanese codes were being read by the Germans. "Magic Summary [MS]," 15 May 1942, Special Research Summary [SRS]-601, 3. In July, the Foreign Ministry voiced its suspicions that commercial codes might have been broken thus giving the Allies information about shipping. Equal weight, however, was given to the carelessness of Japanese commercial firms. MS, 12 July 1942, SRS-650, 1. The result was that restrictions were imposed on commercial firms concerning the transmission of coded messages on shipping, with traffic to be handled by the Navy or, in the case of Thailand and Indo-China, the Foreign Ministry. MS, 30 July 1942, SRS-668, 2; and MS, 28 August 1942, SRS-697, 1-3. There was absolutely no suspicion that the diplomatic cipher had been broken.

<sup>19</sup>"Handling of Ultra Within the Military Intelligence Service, 1941-1945," n.d., SRH-146, 2. The Navy signal intelligence unit in the Philippines, CAST, had, for example, been concentrating on deciphering MAGIC while the Army did the actual intercepts. CAST was later evacuated to Singapore then to Ceylon. Lewin, 86, 129, 132. By April 1943, three large fixed monitoring stations were providing "global coverage of diplomatic traffic." "Origin, Functions and Problems of the Special Branch, M.I.S.," n.d., SRH-116, 20.

<sup>20</sup>"History of the Special Branch, MIS, War Department, 1942-1944," n.d., SRH-035, 18; and Lewin, 143. With the sixty-fourth issue on 27 May 1942, the summary assumed its characteristic format of military, political, economic, psychological and subversive, and (when needed) miscellaneous sections. Issues were not numbered until 7 December 1942. The name was changed to "'Magic' Diplomatic Summary" on 1 July 1944. "'Magic' Diplomatic Summary [MDS]," 828, 1 July 1944, SRS-1350. The summary was declassified in 1978 and remains heavily censored.

<sup>21</sup>SRH-035, 30.

<sup>22</sup>"Problems of the SSO System in World War II," n.d., SRH-107, 2.

<sup>23</sup>Lewin, 116, 117, 128, 155, 169.

<sup>24</sup>Ibid., 121.

<sup>25</sup>SRH-145, 92.

<sup>26</sup>SRH-044, 1; and "Japanese Order of Battle Bulletins, Military Intelligence Service," 1944, SRH-129, 18.

<sup>27</sup>SRH-044, 18, 37, 39. The CBI was notified of the PEARL and THUMB codenames on 16 November 1944. Ibid., 66. THUMB, PEARL and ULTRA intelligence was later routinely fused. "Reports on the Activities of Dr. Marshall Stone in the China, Burma and India Theaters, 29 January-31 March 1945," 1945, SRH-196, 9. Weather intelligence had its own series of codenames, successively PINUP, HYPER and MANX. Ibid., 72, 78, 81.

<sup>28</sup>SRH-035, 31; SRH-107, 1; and Lewin, 148, 196.

<sup>29</sup>SRH-035, p. 26; and SRH-116, 9.

<sup>30</sup>SRH-146, 1.

<sup>31</sup>SRH-116, 45.

<sup>32</sup>SRH-035, 38, 48; and SRH-107, 1. A Southeast Asia desk was established in January 1944 with a mission to produce current intelligence for the G-2 on the Japanese order of battle (OB) and military situation in Burma, Thailand, etc. The desk handled some twenty thousand words of reports, cables and documents every day. "History of the Intelligence Group, Military Intelligence Service, WDGS Military Branch, Part III," n.d., SRH-131, 3, 4, 18.

<sup>33</sup>SRH-035, 39; and Lewin, 197.

<sup>34</sup>SRH-131, 5. Nevertheless, it was felt that "Even without Ultra it would usually have been possible to pick up the moves of major units, in time, through traffic analysis." Ibid., 6.

<sup>35</sup>"'MAGIC' Summary--Japanese Army Supplement [JAS]," 1, 10 February 1944, SRS-001; "'Magic'--Far East Summary [FES]," 103, 1 July 1944, SRS-103; and SRH-035, 46, 47. The supplement/summary featured a weekly estimate of Japanese air strength. The documents were declassified from 1977 to 1982 and are far less censored than are the Magic Summaries.

<sup>36</sup>SRH-035, 52.

<sup>37</sup>Ibid., 49. The first TOP SECRET ULTRA Japanese Order of Battle Bulletin was published 11 March 1944. SRH-129, 78-83. Copies were sent to the CBI Rear Echelon (Captain Runnals, the Special Security Officer) and, through him, to the British Director of Military Intelligence, India. The bulletin was also sent to the SEAC Director of Intelligence from 8 June. SRH-129, 78, 157; and "Report of the Pacific Order of Battle Conference (Ground Forces), 15-18 August 1945," 1945, SRH-098, 214.

<sup>38</sup>SRH-098, 48, 50.

<sup>39</sup>SRH-035, 60.

<sup>40</sup>Ibid., 63; "History of Special Branch, M.I.S., June 1944-September 1945," n.d., SRH-117, 2; and SRH-146, 2.

<sup>41</sup>SRH-117, 9; and Thompson, 338.

<sup>42</sup>SRH-035, 32; and Lewin, 197-198.

<sup>43</sup>SRH-035, 32.

<sup>44</sup>"General Information on Local Ultra Picture as Background for Signal Intelligence Conference, 6 March 1944," 1944, SRH-148, 1.

<sup>45</sup>"History of the Operations of Special Security Officers Attached to Field Commands, 1943-1945," [1945] SRH-033, 2.

<sup>46</sup>Ibid., 3.

<sup>47</sup>SRH-035, 33.

<sup>48</sup>Ibid., 20

<sup>49</sup>Ibid., 21-22.

<sup>50</sup>Ibid., 22.

<sup>51</sup>SRH-107, 18, 19.

<sup>52</sup>SRH-033, 2; SRH-107, 2-3; and Lewin, 151.

<sup>53</sup>SRH-035, 7, 8; and Lewin, 142.

<sup>54</sup>SRH-033, 2; and Lewin, 144, 151.

<sup>55</sup>SRH-146, 1. In February 1945, the Deputy G-2 assumed complete responsibility for the administration of the SSO system. SRH-107, 1.

<sup>56</sup>SRH-033, 1; and SRH-035, 22.

<sup>57</sup> SRH-107, 4.

<sup>58</sup> SRH-044, 5-B.

<sup>59</sup> Ibid., 15-20. A copy of the letter is reproduced in "Marshall Letter to MacArthur on the Use of 'Ultra' Intelligence, May 23 1944, and Related Correspondence," n.d., SRH-034, 8-20.

<sup>60</sup> The result of a staff study. SRH-107, 5. Captain Runnals, as did other SSOs, had his own SIGABA encrypting and decrypting set for traffic with Washington. SRH-033, 4; "Allocation of Special Security Officers to Special Branch, Military Intelligence Service, War Department, 1943-1945," n.d., SRH-061, 10, 15; and "Report of Special Security Operations in the China Burma India Theater and the Two Theaters Created from it, India Burma Theater and China Theater," pp. 81-87, in "Reports by U.S. Army Ultra Representatives with Field Commands in the Southwest Pacific, Pacific Ocean and China Burma India Theaters of Operations, 1944-1945," n.d., SRH-032, 81. Runnals received "hot" ULTRA intelligence by radio; the rest was sent by pouch.

<sup>61</sup> SRH-032, 81.

<sup>62</sup> "Procedure for Handling ULTRA DEXTER Intelligence in the CBI," 1944, SRH-046, 1-4.

<sup>63</sup> SRH-148, 6.

<sup>64</sup> Ibid., 1, 2-3, 4.

<sup>65</sup> SRH-196, 10.

<sup>66</sup> SRH-148, 2. Interestingly enough, British handling of SIGINT in the theater seems to have been problematic to the end of the war. Dr. Marshall Stone noted in 1945 the disorganization of British "special signals" in the Arakan and problems in Kandy, remarking on "our cousins' horror of precise planning and their preference for inspired 'muddling.'" SRH-196, 2, 4, 10. Stone noted that Allied Land Forces, Southeast Asia praised the "high evaluation of...[Ultra] as one of our 'very best sources of intelligence.'" Ibid., 11.

<sup>67</sup> SRH-148, 2.

<sup>68</sup> SRH-032, 82.

<sup>69</sup> SRH-148, 4, 8-9.

<sup>70</sup> SRH-032, 82; and SRH-033, 5.

<sup>71</sup> SRH-032, 83.

<sup>72</sup>Ibid., 83-84.

<sup>73</sup>Ibid., 84.

<sup>74</sup>Ibid., 84, 85.

<sup>75</sup>Ibid., 85.

<sup>76</sup>Ibid., 85, 86.

<sup>77</sup>Kent Roberts Greenfield, gen. ed., United States Army in World War II (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1953), vol. 9, China-Burma-India, vol. 1, Stilwell's Mission to China, by Charles F. Romanus and Riley Sunderland, 62; and Ronald H. Spector, Eagle Against the Sun: The American War with Japan (N.Y.: The Free Press, 1985), 127, 128.

<sup>78</sup>"Japanese-Burmese Relations (Short Title: PSIS 400-11), 9 May 1945," 1945, SRH-074, 1. The Japanese Minister in Hsinking, China, reported to Tokyo as early as 19 February 1941 that Chungking felt a major Japanese campaign would be conducted against the British in Burma. Message H 14916 in "Collection of Japanese Diplomatic Messages, 12 Jul 38-21 Jan 42," 1938-1942, SRH-018, 2. In addition to its strategic value, Burma was an important source of antimony and tungsten. FES, 134, 1 August 1944, SRS-134, [A-7].

<sup>79</sup>Kent Roberts Greenfield, gen. ed., United States Army in World War II (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1956), vol. 2, Stilwell's Command Problems, by Charles F. Romanus and Riley Sunderland, 121n. The Japanese 15th Army, supported by the 5th Air Group, was initially comprised of the 33rd and 55th Divisions. The 18th and 56th Divisions were brought in after the fall of Rangoon for the drive north. In May 1942, the 15th Army's headquarters was located one hundred miles north of Rangoon. The Japanese admitted their fighters had trouble successfully attacking the American B-17 bombers and conceded superiority. The Japanese deemed the attitude of the population of Rangoon favorable to themselves. MS, 21 May 1942, SRS-608, 1; and MS, 28 May 1942, SRS-613, 1-2. The Japanese view of the attitude of the Burmese population underwent a large change by the end of June: the Burmese liked them even less than the British as masters. MS, 7 July 1942, SRS-645, 2.

<sup>80</sup>MS, 542, 19 September 1943, SRS-1092, 1.

<sup>81</sup>MS, 18 April 1942, SRS-575, 1. Japanese intelligence on the Americans, as relayed to Berlin, was a bit shaky. The German Ambassador reported the American force in India included three regiments and was under the command of a Major General Marshall.

MS, 10 May 1942, SRS-596, 5, 6. The Japanese ambassador in Berlin, Baron Oshima, reported to Tokyo that the United States thought that Japan might strike at India, hardly a startling insight. MS, 11 June 1942, SRS-626, Appendix 1.

<sup>82</sup>MS, 17 May 1942, SRS-603, 4, and MS, 20 May 1942, SRS-607, 3.

<sup>83</sup>SRS-645, 1.

<sup>84</sup>MS, 11 August 1942, SRS-680, 10. The Foreign Minister circulated a communication from Kabul which claimed "if Japan were now to take over India, the masses would rejoice." MS, 20 August 1942, SRS-689, 7. Ambassador Oshima was all for invading India and occupying Chittagong and Calcutta. MS, 26 September 1942, SRS-727, 2, [A-]1, [B-]3.

<sup>85</sup>MS, 12 September 1942, SRS-712, 1.

<sup>86</sup>MS, 18 October 1942, SRS-749, 1. The Summary noted that, according to MIS, not less than four divisions, including the 18th, 33rd and 56th, were in Burma. See endnote 79.

<sup>87</sup>MS, 21 October 1942, SRS-752, 1-3; and MS, 22 October 1942, SRS-753, 1-2.

<sup>88</sup>MS, 24 October 1942, SRS-755, 1-2; MS, 26 October 1942, SRS-757, 3-4; MS, 27 October 1942, SRS-758, 1-3; and MS, 29 October 1942, SRS-760, 1-5.

<sup>89</sup>MS, 12 November 1942, SRS-774, 2, 2A; MS, 18 November 1942, SRS-780, 1-3; and MS, 25 November 1942, SRS-790, 5, 6. The Japanese ambassadors in Berlin and Kabul again urged attacks on India. MS, 19 November 1942, SRS-781, 3-4; and MS, 24 November 1942, SRS-786, 1, 2A. The ambassador in Kabul repeated his plea in December. MS, 278, 29 December 1942, SRS-821, 9.

<sup>90</sup>Headquarters, United States Army, Japan, "Burma Operations Record: 15th Army Operations in Imphal Area and Withdrawal to Northern Burma," rev. ed., Japanese Monograph 134 (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1957), 13.

<sup>91</sup>Ibid., 14.

<sup>92</sup>MS, 15 May 1942, SRS-601, 1-2.

<sup>93</sup>MS, 15 August 1942, SRS-684, 6.

<sup>94</sup>Romanus, 1:181, 182, 227.

<sup>95</sup>Ibid., 1:242, 249, 258, 259.

<sup>96</sup>Ibid., 1:270, 271; and Spector, 255, 342. Meanwhile, the Thai advance into the Shan States was not doing well against Chinese troops. By March, the Japanese would estimate that ninety percent of the Thai Army in the area was sick with malaria. MS, 282, 2 January 1943, SRS-825, 3; MS, 306, 26 January 1942, SRS-849, 2; and MS, 350, 11 March 1942, SRS-901, 4.

<sup>97</sup>Romanus, 1:302-303; and Spector, 347.

<sup>98</sup>Spector, 349.

<sup>99</sup>Romanus, 1:382; and Spector, 349.

<sup>100</sup>Romanus, 1:360, 363, 364; idem, 2:9, 10; and Spector, 351.

<sup>101</sup>While Spring traffic had confirmed the earlier sending of reinforcements overland to Burma, these reinforcements were not identified. MS, 349, 10 March 1943, SRS-900, 2.

<sup>102</sup>MS, 380, 10 April 1943, SRS-931, 3; and MS, 399, 29 April 1943, SRS-944, 5, 6n.

<sup>103</sup>The 18th, 33rd and 56th Divisions. SRS-944, 7; and MS, 500, 8 August 1943, SRS-1050, 4.

<sup>104</sup>A decrease in aircraft, perhaps due to the rainy season, was reported. SRS-1050, 4.

<sup>105</sup>MS, 484, 23 July 1943, SRS-1034, [A-]6.

<sup>106</sup>MS, 533, 10 September 1943, SRS-1083, 1.

<sup>107</sup>Romanus, 2:64.

<sup>108</sup>SRH-035, 28-29.

<sup>109</sup>MS, 546, 23 September 1943, SRS-1096, 3-4, A-1-A-17.

<sup>110</sup>MS, 551, 8 October 1943, SRS-1111, 3.

<sup>111</sup>MS, 565, 12 October 1943, SRS-1115, 1, 4, 8. See endnote 104. The Thais were reported increasingly uneasy as a result of Axis reverses in Europe and the threat of Allied invasion of Burma. Presumably, so too were the Burmese. MS, 567, 14 October 1943, SRS-1117, 4, 6, A-1-A-3, B-1-B-10. On 7 October, the German Counselor in Shanghai reported he was told by the Japanese Army liaison officer that the Japanese were reinforcing in expectation of an offensive and would remain on the defensive. The reinforcements to which he referred might have been the 54th Division which was sent to Akyab. MS, 575, 22 October 1943, SRS-1125, 1-2.

<sup>112</sup>A 27 September 1943 memorandum to the head of Special Branch reported "no evidence of major movement by ship or troop movement" although it was possible the 15th Division--tentatively located in Saigon--moved via Thailand to Burma. "Papers from the Personal Files of Alfred McCormack, Colonel, AUS, Special Branch, G2 Military Intelligence Branch, War Department," Part 2, n.d., SRH-141, 153-154.

<sup>113</sup>Romanus, 2:42.

<sup>114</sup>Ibid., 2:121n.

<sup>115</sup>Ibid., 61.

<sup>116</sup>The Burma Area Army was established on 27 March 1943 "to coordinate tactical command and political strategy in Burma." "15th Army," 14.

<sup>117</sup>Ibid., 38, 39.

<sup>118</sup>16 November 1943. "Notes on the Japanese Theatre [sic], Coordination Section, Signal Security Agency, 16 Nov. 1943-25 Feb. 1944," 1943-1944, SRH-060, 3, 5, 7.

<sup>119</sup>24 November 1943. Ibid., 10.

<sup>120</sup>Noted on 1, 8, 16, 23, 30 December 1943; and 7 January 1944. Ibid., 15, 21, 30, 33, 37, 47, 54.

<sup>121</sup>The 18th Division had indeed planned an attack until overruled by the 15th Army. Romanus, 2:127, 129.

<sup>122</sup>SRH-074, 1, 4.

<sup>123</sup>14, 21 January 1944. SRH-060, 64, 71; "Note" in MS, 668, 23 January 1944, SRS-1189, 2; and SRS-001, 1-2.

<sup>124</sup>Romanus, 2:142; and JAS, 2, 12 February 1944, SRS-002, 1.

<sup>125</sup>SRS-002, 2.

<sup>126</sup>28 December 1943 War Ministry circular. MS, 666, 21 Jan 1944, SRS-1187, 3; and SRS-002, 1.

<sup>127</sup>"15th Army," 31.

<sup>128</sup>Ibid., 37; and Headquarters, USAFFE and Eighth U.S. Army (Rear), "Burma Operations Record: 28th Army Operations in Akyab Area," rev. ed., Japanese Monograph 132 (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1958), 2.

129 "28th Army," 2.

130 "15th Army," 78; and Romanus, 2:165.

131 MS, 687, 11 February 1944, SRS-1208, 4.

132 4 February 1944. SRH-060, 86, 91. The 53rd Division was reported (25 February) being stationed in the Andaman Islands. Ibid., 104.

133 Romanus, 2:164; and SRH-129, 5, 83. It would appear that strength figures based on OBs sometimes did not take casualties into account.

134 Romanus, 2:166.

135 On 9 March, the Japanese realized it was more than a raid. JAS, 21, 18 March 1944, SRS-021, 7. A Japanese assessment of the operation on 1 May was that "It is having no effect whatsoever on the Imphal campaign." JAS, 58, 8 May 1944, SRS-058, A-4.

136 Romanus, 2:195, 197.

137 Ibid., 198; and JAS, 28, 28 March 1944, SRS-028, 1-3.

138 JAS, 3, 15 February 1944, SRS-003, 5; JAS, 4, 16 February 1944, SRS-004, 2, 6; and JAS, 7, 23 February 1944, SRS-007, 7, A-1. Further information on the regiment was accompanied by the phrase "in the light of the operations in the Burma area." SRS-007, 1-2.

139 MS, 714, 9 March 1944, SRS-1235, 1.

140 Stilwell, 282.

141 JAS, 12, 1 March, SRS-012, 1-3. The 28th Army was organized on 15 January and reinforced with the 2nd Division. Its initial mission was to defend southwest Burma during the Imphal offensive. Japanese Research Division, Military History Section, Special Staff, Headquarters, Far East Command, "Burma Operations Record: The 33rd Army Operations," Japanese Monograph 148 (Washington, D.C.: Office of the Chief of Military History, Department of the Army, n.d.), 1; and "28th Army," 6.

142 Movement of the 15th Division was reported in mid-February while movement of the 2nd Division to Burma was picked up on 21 January and confirmed in late February. SRS-001, 1; JAS, 5, 18 February 1944, SRS-005, 4-5; JAS, 8, 24 February 1944, SRS-008, 2-3; and JAS, 15, 9 March 1944, SRS-015, 3-5. 5th Air Division was headquartered in Rangoon. JAS, 13, 5 March 1944, SRS-013, 7.

<sup>143</sup> SRH-035, 47; and Romanus, 2:193.

<sup>144</sup> Type A divisions had eighteen thousand soldiers and were organized with an artillery group while Type B divisions, with sixteen thousand, had an artillery regiment. SRH-060, 89. Up to ten thousand soldiers of the Indian National Army also participated.

<sup>145</sup> An ULTRA message remarked that the 5th Air Division would soon be engaged in "U" operations the meaning of which was unknown at that time. It was later presumed to refer to the Japanese offensive. JAS, 25, 25 March 1944, SRS-025, 5; and SRS-028, 1. The Japanese offensive against India was Operation U-GO. The 5th Air Division established a forward headquarters in Kalaw. JAS, 30, 31 March 1944, SRS-030, 1-2. The 15th Army "could not expect direct air support for the ground operations" because of the 5th Air Division's "limited strength." "15th Army," 79.

<sup>146</sup> S[tanley] Kirby Woodburn et al., The War Against Japan, vol. 2, India's Most Dangerous Hour (London: Her Majesty's Stationary Office, 1958), 187-188; and Slim, 248.

<sup>147</sup> Woodburn, 194-195; and Slim, 248.

<sup>148</sup> The 3 March reports of the German military and air attaches to Tokyo on their January-February 1944 inspection trip throughout Southeast Asia, while outlining Japanese forces in Burma (eight divisions were mentioned, with a ninth enroute), betray no knowledge of the imminent Operation U-GO. The air attache discounted a British offensive even as it was launched. MS, 772, 6 May 1944, SRS-1294, [A-]1-[A-]3, [B-]13

<sup>149</sup> SRH-129, 5, 80, 83.

<sup>150</sup> Ibid., 9, 87, 96.

<sup>151</sup> Stilwell, 285.

<sup>152</sup> SRS-025, 3, A-1.

<sup>153</sup> SRH-129, 13, 35, 94, 96, 106.

<sup>154</sup> Stilwell, 287.

<sup>155</sup> JAS, 29, 30 March 1944, SRS-029, 1-3; JAS, 41, 15 April 1944, SRS-041, 1-2; and SRH-129, 108, 109, 112, 119, 124. The 53rd Division had been the strategic reserve of Southern Army. "15th Army," 146.

<sup>156</sup> JAS, 47, 23 April 1944, SRS-047, 2-3.

<sup>157</sup> Stilwell, 289.

<sup>158</sup>Ibid., 291.

<sup>159</sup>Ibid.

<sup>160</sup>Romanus, 2:201, 202. Companies of the 18th Division were estimated at about 60 percent strength. Ibid., 218. ULTRA reported that many companies of the 18th Division were being referred to as buntai (squads). Losses for the 18th and 55th Divisions in December and February were estimated as 2100 killed in action (KIA) and 2500 wounded in action (WIA) for the 18th, and 2250 KIA and 2750 WIA for the 55th. Replacements were fifteen hundred for each division. JAS, 36, 8 April 1944, SRS-036, 1-3. The 18th was relieved by the 53rd Division in July. FES, 157, 24 August 1944, SRS-157, 15.

<sup>161</sup>Romanus, 2:204.

<sup>162</sup>Stilwell, 298; and Romanus, 2:276.

<sup>163</sup>Romanus, 2:233. As late as 30 June, the Chih Hui Bu was still estimating that there were only five hundred enemy soldiers in the town. Ibid., 248. Only OB data classified SECRET or lower was ever given to the Chinese. "Proceedings of the Pacific Order of Battle Conference, 3-19 July 1944," 1944, SRH-097, 7, 40.

<sup>164</sup>Stilwell, 298.

<sup>165</sup>Romanus, 2:279.

<sup>166</sup>"33rd Army," 8-9. The besieged force in Myitkyina was reinforced by one battalion at the end of June. Ibid., 10.

<sup>167</sup>Ibid., 18.

<sup>168</sup>The Chinese were believed to outnumber their opponents anywhere from five to ten to one. JAS, 67, 21 May 1944, SRS-067, 3-4.

<sup>169</sup>Romanus, 2:313, 331.

<sup>170</sup>Ibid., 329, 336.

<sup>171</sup>SRH-129, 106.

<sup>172</sup>Romanus, 2:315, 316, 319.

<sup>173</sup>SRS-1350, 7.

<sup>174</sup>JAS, 71, 26 May 1944, SRS-071, 1-3; and JAS, 72, 29 May 1944, SRS-072, 4. The 33rd Army was organized on 8 April and

arrived in Maymyo on 30 April. "33rd Army," 1; and "15th Army," 146.

<sup>175</sup>The bulk of the 53rd Division was earmarked to operate against the Chindits. This would allow the return of units so engaged to the 18th and 56th Divisions. SRS-072, 4. In late June, ULTRA revealed that the third regiment of the 53rd Division was slated to rejoin it from Malaya. JAS, 94, 22 June 1944, SRS-094, 4; and JAS, 107, 7 July 1944, SRS-107, 6-7.

<sup>176</sup>"33rd Army," 4.

<sup>177</sup>That a forward headquarters was established at Mollou, about twenty-five miles from Imphal, was picked up in June. JAS, 78, 5 June 1944, SRS-078, 5. The 15th Army commander determined by this time that his offensive against India had failed. "15th Army," 150.

<sup>178</sup>The location of the 24th IMB's headquarters was reaffirmed in FES, 128, 26 July 1944, SRS-128, A-3.

<sup>179</sup>SRS-071, 4-5; SRH-129, 36, 150, 168; and SRH-097, 64-65. Most of this intelligence was released at the SECRET level on 28 June. SRH-097, 51. The headquarters of the 28th Army was alternately located at Mauding. Ibid., 62.

<sup>180</sup>Operational Order No. 1, Southern [Area General] Army [Army Group equivalent], 13 April 1944. JAS, 84, 12 June 1944, SRS-084, 6, A-1-A-2.

<sup>181</sup>JAS, 88, 16 Jun 44, SRS-088, 3-4.

<sup>182</sup>E.g., JAS, 92, 20 June 1944, SRS-092, 3-4.

<sup>183</sup>"15th Army," 156; and "28th Army," 45.

<sup>184</sup>FES, 141, 8 August 1944, SRS-141, 3.

<sup>185</sup>Ibid.

<sup>186</sup>Stilwell, 311.

<sup>187</sup>FES, 166, 2 September 1944, SRS-166, 8; and "33rd Army," 32, 35.

<sup>188</sup>The 56th Division alone received 3501 replacements in July. FES, 140, 7 August 1944, SRS-140, 1-4. The 106th Infantry Regiment and other elements of the 49th Division were initially believed to have suffered heavy losses from a submarine attack while en route. This estimation was changed to replacements for the 33rd Division. FES, 142, 9 August 1944, SRS-142, 6-7; and FES, 143, 10 August 1944, SRS-143, 3. The planned deployment of

the 49th Division to Burma was later confirmed although losses incurred en route to Singapore were unknown. FES, 145, 12 August 1944, SRS-145, 1-3. The 49th was comprised of at least 11,300 troops being transported in three, possibly four, lifts. FES, 154, 21 August 1944, SRS-154, 4-5.

<sup>189</sup>FES, 146, 13 August 1944, SRS-146, 2.

190 "Southern Army estimate of Allied Strength and Intentions, 28 August 1944," in FES, 169, 5 September 1944, SRS-169, A-5.

<sup>191</sup>FES, 156, 23 August 1944, SRS-156, 4-5. Japanese logistics were hampered by the monsoon rains. SRS-166, 5-7. Fighter aircraft were pressed into use to drop supplies to Japanese troops on the Salween Front. FES, 182, 18 September 1944, SRS-182, 2. Shipping shortages curtailed supply to the Burma Area Army to fifty percent of the "former" transport capacity." FES, 191, 27 September 1944, SRS-191, 2. Allied mining also forced the periodic closure of Bangkok harbor. FES, 250, 25 November 1944, SRS-250, 3; and FES, 254, 29 November 1944, SRS-254, 5.

192 "28th Army," 55.

<sup>193</sup>MDS, 907, 18 September 1944, SRS-1429, 3.

<sup>194</sup>FES, 185, 21 September 1944, SRS-185, 1-5.

<sup>195</sup>In April, May and June, the 56th Division suffered thirty percent casualties on the Salween Front: 1550 KIA and 3150 WIA. Of 6,300 Burma-bound replacements, those destined for the 56th Division were given first priority in railroad transportation although one thousand may have been later diverted to the 18th Division. FES, 187, 23 September 1944, SRS-187, 5-6.

196 "33rd Army," 25.

<sup>197</sup>FES, 189, 25 September 1944, SRS-189, 4-5. The 33rd Army suffered from a shortage of officers and "authorized its units to invoke a 'wartime exception' and use 'warrant officers as officer replacements.'" FES, 190, 26 September 1944, SRS-190, 3.

<sup>198</sup>SRS-185, 1-2. Only in October did Kandy forward a 9 June message of the 18th Division which discussed disposal of "gas shells" at Mogaung. FES, 196, 2 October 1944, SRS-196, 3.

<sup>199</sup>From a 29 September interview by the German Ambassador and Military Attaché with a "high official in the Japanese War Ministry." MDS, 946, 27 October 1944, SRS-1468, B2. Also see SRS-187, 2.

<sup>200</sup>MDS, 946, 27 October 1944, SRS-1468, 4, B2-B3. For example, aircraft operational strength in Burma decreased steadily from 1 January to 1 September 1944. The overall October aircraft fighting strength in the Burma-Thailand-Indo-China area was estimated by Allied intelligence at less than forty percent of the estimated total strength. FES, 205, 11 October 1944, SRS-205, A-1, B-6.

<sup>201</sup>The Japanese Naval Attache in Berlin advised Tokyo on 20 October that "powerful forces" had been moved by rail to Assam in mid-September. FES, 222, 28 October 1944, SRS-222, 5.

<sup>202</sup>FES, 214, 20 October 1944, SRS-214, 3-4; and FES, 224, 30 October 1944, SRS-224, 2.

<sup>203</sup>The 5th Air Division headquarters had been withdrawn from Kalaw in June because of the monsoon. FES, 216, 22 October 1944, SRS-216, 1; and FES, 215, 21 October 1944, SRS-215, 2.

<sup>204</sup>33rd Army, with forward and rear headquarters at Mongyu and Lashio, respectively, controlled the 2nd and 56th Divisions which opposed the Chinese in the vicinity of Mangshih and Lungling, and the 18th Division in the vicinity of Namhkan. It was further reported that responsibility for North Burma had probably been transferred from the 33rd to the 15th Army. FES, 228, 3 November 1944, SRS-228, 3-4.

<sup>205</sup>FES, 232, 7 November 1944, SRS-232, 2-3, A-1-A-3.

<sup>206</sup>FES, 242, 17 November 1944, SRS-242, 4.

<sup>207</sup>FES, 243, 18 November 1944, SRS-243, 2; and FES, 253, 28 November 1944, SRS-253, A-4.

<sup>208</sup>From the text of a 22 November message from the Vice Chief of the Imperial General Staff in Tokyo. SRS-253, A-4-A-5.

<sup>209</sup>Ibid., A-7.

<sup>210</sup>FES, 262, 7 December 1945, SRS-262, 3-4; and 3 December staff message from Southern Army, in FES, 313, 27 January 1945, SRS-313, 5, B-1. The 35th IMB was stationed in the Andamans, and the 36th and 37th IMBs in the Nicobars. FES, 302, 16 January 1945, SRS-302, 8.

<sup>211</sup>SRS-302, 10.

<sup>212</sup>FES, 269, 14 December 1944, SRS-269, 10. The 5th Air Division reported using a "statistical study of types of planes and battle tactics" to locate antiaircraft artillery to great effect along air routes to Meiktila on 10 December. Allied

operational reports did not state whether any planes were lost.  
FES, 277, 22 December 1944, SRS-277, 3-4.

<sup>213</sup>FES, 266, 11 December 1944, SRS-266, 1.

<sup>214</sup>Ibid., 2.

<sup>215</sup>FES, 271, 16 December 1944, SRS-271, 3, A-2. IV Indian Corps captured Kanbalu (ninety miles north of Mandalay) and Tagaung (105 miles north of Mandalay) after the withdrawal of the 15th and 53rd Divisions. FES, 293, 7 January 1945, SRS-293, 3-4.

<sup>216</sup>FES, 274, 19 December 1944, SRS-274, 2; and FES, 281, 26 December 1944, SRS-281, 2. The British later captured Akyab in a 3 January amphibious landing after the 54th Division was withdrawn. SRS-293, 2.

<sup>217</sup>SRS-281, 2. The Japanese received a report from Germany in December that 200 to 250 large landing barges had been sent to the Indian Ocean. FES, 288, 2 January 1945, SRS-288, 2.

<sup>218</sup>FES, 285, 30 December 1944, SRS-285, 8.

<sup>219</sup>MDS, 1040, 29 January 1945, SRS-1562, A3.

<sup>220</sup>FES, 291, 5 January 1945, SRS-291, 5.

<sup>221</sup>FES, 299, 13 January 1945, SRS-299, 3-5. A captured U.S. air officer claimed, under interrogation, that the Allies would advance into all areas of Burma after the collapse of Germany. FES, 305, 19 January 1945, SRS-305, A-1-A-5.

<sup>222</sup>FES, 301, 15 January 1945, SRS-301, 4; and SRS-302, 6. ULTRA reported aircraft being transferred to Indo-China. FES, 311, 25 January 1945, SRS-311, 6.

<sup>223</sup>SRS-301, 6.

<sup>224</sup>FES, 307, 21 January 1944, SRS-307, 4.

<sup>225</sup>MDS, 1056, 14 February 1945, SRS-1578, 4; MDS, 1063, 21 February 1945, SRS-1585, 9, B1, B2; and MDS, 1068, 26 February 1945, SRS-1590, 3-4.

<sup>226</sup>FES, 319, 2 February 1945, SRS-319, 1-2, A-1-A-3.

<sup>227</sup>FES, 320, 3 February 1945, SRS-320, 7.

<sup>228</sup>FES, 324, 7 February 1945, SRS-324, 4.

<sup>229</sup>MIS found no evidence that the 21st Division was being redeployed to Burma. FES, 327, 10 February 1945, SRS-327, 4.

Traffic analysis located the 2nd Division headquarters south in Moulmein, indicating that the division was continuing to move to Thailand as previously ordered. FES, 330, 13 February 1945, SRS-330, 2.

<sup>230</sup>FES, 340, 23 February 1945, SRS-340, 2-3.

<sup>231</sup>This may actually have been the Sakuma Detachment of the 33rd Division. "33rd Army," 58.

<sup>232</sup>SRS-340, 3. The rest of the 2nd Division had been ordered to redeploy to Thailand. This destination was later changed to Indo-China. FES, 360, 15 March 1945, SRS-360, 1.

<sup>233</sup>SRH-074, 4n, 9, 9n. A 30 March Navy message estimated about three thousand had taken part. FES, 380, 4 April 1945, SRS-380, 1.

<sup>234</sup>FES, 378, 2 April 1945, SRS-378, 7.

<sup>235</sup>5 April reference to the recent "vexing" rebellion. MDS, 1112, 11 April 1945, SRS-1634, 1. Narrative on the revolt. MDS, 1115, 14 April 1945, SRS-1637, 5-7.

<sup>236</sup>MDS, 1099, 29 March 1945, SRS-1621, 2.

<sup>237</sup>SRS-1634, 2.

<sup>238</sup>MDS, 1123, 22 April 1945, SRS-1645, 5; and MDS, 1125, 24 April 1945, SRS-1647. Ba Maw remained in Moulmein, and later Mudon, until mid-August. MDS, 1148, 17 May 1945, SRS-1670, 4-5; MDS, 1154, 23 May 1945, SRS-1676, 7; MDS, 1180, 18 June 1945, SRS-1702, 9-10; MDS, 1197, 5 July 1945, SRS-1719, 9-10; MDS, 1232, 9 August 1945, SRS-1754, 6-7; MDS, 1237, 14 August 1945, SRS-1759, 1-2; MDS, 1247, 24 August 1945, SRS-1769, 4; MDS, 1249, 26 August 1945, SRS-1771, 5; MDS, 1252, 29 August 1945, SRS-1774, 8; and MDS, 1263, 9 September 1945, SRS-1785, 7. After spending a brief time in an Allied prison, Ba Maw returned to Burma where he died on 29 May 1977.

<sup>239</sup>FES, 399, 23 April 1945, SRS-399, 4.

<sup>240</sup>Ibid., 1; and FES, 400, 24 April 1945, SRS-400, 5. The Japanese Army Air Force began withdrawing from the Rangoon area.

<sup>241</sup>In a 21 April message. SRS-400, A-3.

<sup>242</sup>Ibid., 3, 5. The headquarters moved to Moulmein on or about 25 April. FES, 401, 25 April 1945, SRS-401, 7. The Navy command followed the next day. FES, 404, 28 April 1945, SRS-404, 9. The Army and Navy planned to execute an "Operation #3" from Moulmein. Ibid., 9; and FES, 405, 29 April 1945, SRS-405, 2.

The Andamans and Nicobars were ordered evacuated on 7 May. By this time, the 15th Tank Regiment had been located in the Nicobars. FES, 417, 11 May 1945, SRS-417, 1.

<sup>243</sup>SRS-400, 3-4. The bulk of the Navy ground forces were positioned north of Rangoon alongside Army units. SRS-404, 9. Allied forces were then about 135 miles north of Rangoon.

<sup>244</sup>SRS-405, 2.

<sup>245</sup>"33rd Army," 70.

<sup>246</sup>FES, 424, 18 May 1945, SRS-424, 1-2, A-1-A-2. The 39th Army in Thailand now controlled the Tenasserim coast area of southern Burma. Ibid., A-2.

<sup>247</sup>The 28th Army had been instructed in early June to hold the mountains. By mid-June, it was ordered to withdraw to Tenasserim. "28th Army," 146-147.

<sup>248</sup>21 May message. FES, 435, 29 May 1945, SRS-435, 3-5. The Japanese expressed a continuing concern that the Allies might resort to chemical warfare. FES, 468, 1 July 1945, SRS-468, 1.

<sup>249</sup>FES, 481, 14 July 1945, SRS-481, 5-6.

<sup>250</sup>"33rd Army," 76-77.

<sup>251</sup>FES, 485, 18 July 1945, SRS-485, 4.

<sup>252</sup>The "depleted" 2nd Division had earlier been moved to Indo-China. FES, 484, 17 July, SRS-484, 2.

<sup>253</sup>FES, 487, 20 July 1945, SRS-487, 9.

<sup>254</sup>The 15th Army was to operate from Lampang (325 miles north of Bangkok). FES, 488, 21 July 1945, SRS-488, 4-5.

<sup>255</sup>FES, 498, 31 July 1945, SRS-498, 5.

<sup>256</sup>FES, 507, 9 August 1945, SRS-507, 6-7. MIS estimated there were 54,000 troops in Burma.

<sup>257</sup>FES, 510, 13 August 1945, SRS-510, 6.

<sup>258</sup>FES, 513, 16 August 1945, SRS-513, 2-3.

<sup>259</sup>Ibid., 6. The Vice Chief of the Imperial General Staff estimated it would take up to six days for word to reach all of the troops in Burma. FES, 514, 17 August 1945, SRS-514, 2. The 2nd Division in Indo-China, old Burma hands, regarded the surrender as propaganda. FES, 517, 20 August 1945, SRS-517, 2.

<sup>260</sup>FES, 515, 18 August 1945, SRS-515, 10.

<sup>261</sup>Ibid., 2. In the aftermath of the surrender, Base Force 13 experienced "some cases of violence, threats to senior officers and desertions." FES, 529, 2 September 1945, SRS-529, 2.

<sup>262</sup>FES, 524, 27 August 1945, SRS-524, 4.

<sup>263</sup>FES, 526, 29 August 1945, SRS-526, 4. The Japanese continued measures to safeguard the security of their codes. FES, 534, 7 September 1945, SRS-534, 1.

<sup>264</sup>FES, 547, 2 October 1945, SRS-547.

<sup>265</sup>The final "'Magic' Diplomatic Summary" was published on 3 November 1945. MDS, 1316, 3 November 1945, SRS-1837, 8.

<sup>266</sup>SRH-035, 53-54.

<sup>267</sup>SRH-116, 29.

<sup>268</sup>Thus, the 55th Division's security control was judged by the British to be "far superior" to that of the 54th Division. SRH-196, 16, 17, 18. The 55th Division had, in fact, been security conscious as far back as February 1944. JAS, 16, 10 March 1944, SRS-016, 5.

<sup>269</sup>SRH-107, 11, 13, 14.

<sup>270</sup>SRH-059, 59.

<sup>271</sup>SRH-035, 1.

<sup>272</sup>SRH-116, 40.

<sup>273</sup>Lewin, 68.

<sup>274</sup>SRH-032, 87; and SRH-059, 65, 67.

## BIBLIOGRAPHY

- Allen, Louis. Burma: The Longest War: 1941-45. N.Y.: St. Martin's Press, 1984.
- "Allocation of Special Security Officers to Special Branch, Military Intelligence Service, War Department, 1943-1945." n.d. SRH-061. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- Auchinleck, Claude J.E. Operations in the Indo-Burma Theater Based on India from 21 June 1943 to 15 November 1943. London: His Majesty's Stationery Office, 1948.
- "Collection of Japanese Diplomatic Messages, 12 Jul 38-21 Jan 42." 1938-1942. SRH-018. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- "Collection of Memoranda on Operations of SIS Intercept Activities and Dissemination, 1942-1945." 1942-1945. SRH-145. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- Department of the Army Pamphlet 672-1, Unit Citation and Campaign Register, with Change 4 (1962). Washington, D.C.: Headquarters, Department of the Army, 1961.
- Field Manual 34-1, Intelligence and Electronic Warfare Operations. Washington, D.C.: Headquarters, Department of the Army, 1987.
- Field Manual 34-3, Intelligence Analysis. Washington, D.C.: Headquarters, Department of the Army, 1990.
- Field Manual 100-5, Operations. Washington, D.C.: Headquarters, Department of the Army, 1986.
- "General Information on Local Ultra Picture as Background for Signal Intelligence Conference, 6 March 1944." 1944. SRH-148. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

Greenfield, Kent Roberts, gen. ed. United States Army in World War II. Vol. 4, The War Department. Part 3, Strategic Planning for Coalition Warfare, 1943-1944, by Maurice Matloff. Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1959.

\_\_\_\_\_. Vol. 6, The Technical Services. Part 5, The Signal Corps. Vol. 1, The Emergency (to December 1941), by Dulany Terrett. Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1956.

\_\_\_\_\_. Vol. 6, The Technical Services. Part 5, The Signal Corps. Vol. 2, The Test (December 1941 to July 1943), by George Raynor Thompson et al. Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1957.

\_\_\_\_\_. Vol. 6, The Technical Services. Part 5, The Signal Corps. Vol. 3, The Outcome (mid-1943 through 1945), by George Raynor Thompson and Dixie R. Harris. Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1966.

\_\_\_\_\_. Vol. 9, China-Burma-India. Vol. 1, Stilwell's Mission to China, by Charles F. Romanus and Riley Sunderland. Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1953.

\_\_\_\_\_. Vol. 9, China-Burma-India. Vol. 2, Stilwell's Command Problems, by Charles F. Romanus and Riley Sunderland. Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1956.

\_\_\_\_\_. Vol. 9, China-Burma-India. Vol. 3, Time Runs Out in CBI, by Charles F. Romanus and Riley Sunderland. Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1958.

"Handling of Ultra Within the Military Intelligence Service, 1941-1945." n.d. SRH-146. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

Headquarters, United States Army, Japan. "Burma Operations Record: 15th Army Operations in Imphal Area and Withdrawal to Northern Burma." Revised edition. Japanese Monograph 134. Washington, D.C.: Office of the Chief of Military History, 1957. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

Headquarters, USAFFE and Eighth U.S. Army. "Burma Operations Record: 28th Army Operations in Akyab Area." Revised edition. Japanese Monograph 132. Washington, D.C.: Office

of the Chief of Military History, Department of the Army, 1958. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

Hinsley, F.H. et al. British Intelligence in the Second World War: Its Influence on Strategy and Operations. 5 vols. Vol 1. London: Her Majesty's Stationery Office, 1979. Vols. 2-5. N.Y.: Cambridge University Press, 1981-1990.

"History of Special Branch, M.I.S., June 1944-September 1945." n.d. SRH-117. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"History of the Intelligence Group, Military Intelligence Service, WDGS Military Branch." Part III. n.d. SRH-131. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"History of the Operations of Special Security Officers Attached to Field Commands, 1943-1945." [1945] SRH-033. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"History of the Special Branch, MIS, War Department, 1942-1944." n.d. SRH-035. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"Japanese Order of Battle Bulletins, Military Intelligence Service." 1944. SRH-129. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

Japanese Research Division, Military History Section, Special Staff, Headquarters, Far East Command. "Burma Operations Record: The 33d Army Operations." Japanese Monograph 148. Washington, D.C.: Office of the Chief of Military History, Department of the Army, n.d. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"Japanese-Burmese Relations (Short Title: PSIS 400-11), 9 May 1945." 1945. SRH-074. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

Kahn, David. The Codebreakers: The Story of Secret Writing. N.Y.: Macmillan Publishing Company Co., Inc., 1967.

Lewin, Ronald. The American Magic: Codes, Ciphers and the Defeat of Japan. N.Y.: Farrar Straus Giroux, 1982.

\_\_\_\_\_. The Other Ultra. London: Hutchinson, 1982.

Liddell Hart, B[asil] H. History of the Second World War. N.Y.: G.P. Putnam's Sons, 1970.

- "'Magic' Diplomatic Extracts, July 1945." 1945. SRH-040. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- "'Magic' Diplomatic Summary." 1 July 1944-3 November 1945. SRS-1350-1837. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- "'Magic'--Far East Summary." 1 July 1944-2 October 1945. SRS-103-547. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- "MAGIC Reports for the Attention of the President, 1943-1944." 1943-1944. SRH-111. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- "Magic Summary." 20 March 1942-30 June 1944. SRS-549-1349. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- "'Magic' Summary--Japanese Army Supplement." 10 February 1944-30 June 1944. SRS-001-102. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- "Marshall Letter to MacArthur on the Use of 'Ultra' Intelligence, May 23 1944, and Related Correspondence." n.d. SRH-034. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- "Messages from SSO attached to U.S. Army Forces India Burma Theater HQ, New Delhi, India," pp. 38-39. In "Selected Examples of Commendations and Related Correspondence Highlighting the Achievements and Value of U.S. Signals Intelligence during World War II." n.d. SRH-059. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- "MIS Contribution to the War Effort, MIS, WDGS, December 1945." 1945. SRH-041. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.
- Moser, Don. China-Burma-India. World War II. Alexandria, VA: Time-Life Books, 1978.
- Mountbatten, Louis [F.A.V.N.]. Personal Diary of Admiral the Lord Louis Mountbatten, Supreme Allied Commander, South-East Asia, 1943-1946. Edited by Philip Ziegler. London: Collins, 1988.
- "Notes on the Japanese Theatre [sic] Coordination Section Signal Security Agency, 16 Nov 1943-25 Feb 1944." 1943-1944. SRH-

060. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"Origin, Functions and Problems of the Special Branch, M.I.S." n.d. SRH-116. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"Papers from the Personal Files of Alfred McCormack, Colonel, AUS, Special Branch, G2 Military Intelligence Branch, War Department." Part 2. n.d. SRH-141. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

Prasad, Bisheshwar, ed. Official History of the Indian Armed Forces in the Second World War 1939-45. Campaigns in the Eastern Theatre. The Arakan Operations 1942-45, by N.N. Madan. Calcutta: Combined Inter-Services Historical Section (India and Pakistan), 1954.

. The Reconquest of Burma. Vol. 1, June 1942-June 1944, by S.N. Prasad, K.D. Bhargava, and P.N. Khera. Calcutta: Combined Inter-Services Historical Section (India and Pakistan), 1954.

. The Reconquest of Burma. Vol. 2, June 1944-August 1945, by P.N. Khera and S.N. Prasad. Calcutta: Combined Inter-Services Historical Section (India and Pakistan), 1954.

. The Retreat from Burma 1941-1942. Calcutta: Combined Inter-Services Historical Section (India and Pakistan), n.d.

"Problems of the SSO System in World War II." n.d. SRH-107. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"Procedure for Handling ULTRA DEXTER Intelligence in the CBI." 1944. SRH-046. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"Proceedings of the Pacific Order of Battle Conference, 3-19 July 1944." 1944. SRH-097. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"Report of Special Security Operations in the China Burma India Theater and the Two Theaters Created from it, India Burma Theater and China Theater," pp. 81-87. In "Reports by U.S. Army Ultra Representatives with Field Commands in the Southwest Pacific, Pacific Ocean and China Burma India Theaters of Operations, 1944-1945." n.d. SRH-032. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"Report of the Pacific Order of Battle Conference (Ground Forces), 15-18 August 1945." 1945. SRH-098. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

"Reports on the Activities of Dr. Marshall Stone in the China, Burma and India Theaters, 29 January-31 March 1945." 1945 SRH-196. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

Slim, William [J.]. Defeat into Victory. New edition. N.Y.: David McKay Co., Inc., 1961.

Smith, E.D. Battle for Burma. N.Y.: Holmes and Meier Publishers, Inc., 1979.

Spector, Ronald H. Eagle Against the Sun: The American War with Japan. N.Y.: The Free Press, 1985.

Stilwell, Joseph W. The Stilwell Papers. Edited by Theodore H. White. N.Y.: William Sloane Assoc., 1948; Schocken, 1972.

Tuchman, Barbara W. Stilwell and the American Experience in China, 1911-1945. London: Bantam, 1972.

"War Department Regulations Governing the Dissemination and Security of Communication Intelligence, 1943-1945." [1945] SRH-044. Copy at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania.

Wavell, Archibald Percival. Wavell: The Viceroy's Journal. Edited by Penderel Moon. London: Oxford University Press, 1973.

Wedemeyer, Albert C. Wedemeyer Reports! N.Y.: Holt, 1958.

Winterbotham, F.W. The Ultra Secret. N.Y.: Dell Publishing Co., 1974.

Woodburn, S[tanley] Kirby et al. The War Against Japan. Vol. 2, India's Most Dangerous Hour. London: Her Majesty's Stationary Office, 1958.

\_\_\_\_\_. Vol. 3, The Decisive Battles. London: Her Majesty's Stationary Office, 1961.

\_\_\_\_\_. Vol 4, The Reconquest of Burma. London: Her Majesty's Stationary Office, 1965.